Understanding consumer intentions towards ethical shopping apps

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Abstract

Tittle: Understanding consumer intentions towards ethical shopping apps

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With the rise of ethical consumerism, ethical shopping apps—digital platforms that help customers assess products and brands on sustainability, fair labor practices, and ethics credentials—have emerged as digital tools to facilitate responsible purchasing decisions. Still, adoption remains limited, and the factors influencing consumer engagement with these apps require further exploration. This study investigates factors influencing the adoption intentions of ethical shopping applications, providing an understanding of consumer intentions, by integrating the Theory of Planned Behavior and the Unified Theory of Acceptance and Use of Technology.

A survey of 181 participants measured the determinants of adoption intentions and the influence of technological and behavioral determinants. The findings indicate that practical considerations, such as performance expectancy and cost-benefit, play a more significant role in adoption decisions than purely ethical motivations. Price concerns, lack of awareness, and trust issues were key barriers for using ethical shopping apps, while being part of a socially responsible community and the ability to find sustainable products were the most cited drivers.

The findings suggest that while there is interest in using ethical shopping apps, increasing adoption requires credibility-building efforts, visibility campaigns, and financial and practical incentives that clearly demonstrate their value, ensuring that interest translates into actual use. Apart from understanding technology-mediated ethical consumption knowledge, this study illuminates consumer decision-making in digital markets.

Keywords: Ethical shopping apps, ethical consumerism, behavioral intention, Theory of Planned Behavior, Unified Theory of Acceptance and Use of Technology, consumer behavior, sustainable consumerism

Sumário

Título: Compreender as intenções dos consumidores relativamente a aplicações de compras éticas

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Com o aumento do consumismo ético, as aplicações de compras éticas - plataformas digitais que ajudam os clientes a avaliar produtos e marcas em termos de sustentabilidade, práticas laborais justas e credenciais éticas - surgiram como ferramentas digitais para facilitar decisões de compra responsáveis. Ainda assim, a adoção continua a ser limitada e os fatores que influenciam comportamentos com estas aplicações requerem maior estudo. Este estudo investiga os fatores que influenciam intenções de adoção de aplicações de compras éticas, através da integração da Teoria do Comportamento Planeado e da Teoria Unificada da Aceitação e Utilização da Tecnologia.

Um inquérito a 181 participantes mediu os determinantes das intenções de adoção e a influência dos determinantes tecnológicos e comportamentais. Os resultados indicam que considerações práticas, como perceção de utilidade e custo-benefício, desempenham um papel mais significativo nas decisões de adoção do que motivações puramente éticas. Preocupações com preço, falta de sensibilização e confiança foram os principais obstáculos à utilização destas aplicações, sendo que fazer parte de uma comunidade socialmente responsável e a capacidade de encontrar produtos sustentáveis foram os fatores mais citados.

Os resultados sugerem que, embora haja interesse em utilizar as aplicações, para aumentar a adoção, são necessários esforços de construção de credibilidade, campanhas de visibilidade e incentivos financeiros e práticos que demonstrem o seu valor, garantindo que o interesse se traduz em utilização.

Palavras-chave: Aplicações de compras éticas, consumismo ético, intenção comportamental, Teoria do Comportamento Planeado, Teoria Unificada da Aceitação e Utilização da Tecnologia, comportamento do consumidor, consumo sustentável

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List of Abbreviations

TPB	Theory of Planned Behavior
UTAUT	Unified Theory of Acceptance and Use of Technology
UTAUT2	Extended Unified Theory of Acceptance and Use of Technology
TAM	Technology Acceptance Model
BI	Behavioral Intention
VIF	Variance Inflation Factor
RQ	Research Question
PBC	Perceived Behavior Control
SPSS	Statistical Package for the Social Sciences
F	F-statistic
H1	Hypothesis 1 (2-7 respectively)
N	Total number of cases
p	p-value
SD	Standard Deviation
M	Sample Mean
R^2	Multiple correlation squared; measure of strength of association
b	Regression Coefficient
ΔR^2	Change in R-Squared; increase in explained variance
α	Cronbach's Alpha; measure of internal consistency
B	Unstandardized Regression Coefficient
t	t-statistic

1. Introduction

"The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday's logic." – Peter Drucker (1980)

"Ethical consumption is a way of fighting back." – Sarah Ditum (2016)

Ethical consumerism refers to the practice of purchasing products and services that align with one's ethical values, such as environmental sustainability, social responsibility, and fair labor practices. This approach to consumption emphasizes supporting businesses that prioritize these ethical standards, reflecting a shift towards more conscious decision-making in the marketplace (White et al., 2012). Consumers are becoming more aware of how their choices impact issues such as sustainability, fair labor standards, animal welfare, and climate change (Michal J. Carrington et al., 2014). According to a recent Nielsen (2015) study, 66% of global consumers are willing to pay more for brands that promote sustainability, demonstrating the market's strong inclination towards ethical consumption. Further evidence of a strong correspondence between consumer preferences and brand purpose comes from a 2021 Ipsos study, which revealed that 70% of individuals in 25 countries give preference to companies that mirror their personal convictions.

Despite this growing awareness, ethical consumption remains complex, and consumers do not always act in accordance with their ethical values. While many consumers express an interest in purchasing ethical products, various practical and psychological barriers influence actual purchasing decisions. For instance, a survey by Ethical Consumer (2019) found that although 75% of participants claimed to value ethical purchasing, only 30% actively sought ethical products on their last shopping trip. This discrepancy between ethical purchasing interest and actual behavior is influenced by multiple factors, including the prioritization of ethical concerns, where consumers may prioritize certain ethical issues (e.g., environmental impact, labor practices) over others; the lack of concrete planning and established habits, which hinders ethical purchasing; the perceived sacrifices associated with ethical consumption, such as higher costs and reduced convenience; and entrenched shopping routines that make ethical purchases less likely (Carrington et al., 2014). Understanding these challenges is key to promoting more ethical consumer behavior.

One potential solution to encourage responsible purchasing decisions is the emergence of ethical shopping applications, which are designed to assist customers in making more

knowledgeable judgments about what to buy. Apps of this type offer comprehensive details about the ethical standards, labor practices, and environmental sustainability of many firms, such as *Good On You* (online recommendation sites that rank ethical fashion brands)*, Shop Ethical! (*provides consumers with information on the environmental and social records of companies behind common brands), *Buycott* (real-time product transparency data), or *DoneGood (*online marketplace that connects consumers with over 100 ethical brands and offers a variety of products produced with a focus on sustainability and fair labor practices). By offering open facts, these applications aim to reduce the amount of work involved in making moral decisions and some of these applications include built-in marketplaces where users can buy products based on specific ratings important to the consumer. These apps can encourage users to make more morally correct decisions, but usage rates are still very low (Sorum, 2019). According to some initial and small research, obstacles to their widespread use include consumer mistrust, lack of awareness, and the difficulty of incorporating ethical purchasing decisions into shopping routines (Sorum, 2019).

Although ethical shopping apps offer a promising avenue to support responsible consumer choices, research on the role, and effectiveness of ethical shopping applications remains scarce. There is still a lack of studies examining not only the efficiency and value these applications provide to consumers but also how they shape decision-making, purchasing behavior, and user perceptions. Specifically, little is known about how consumers evaluate these mobile applications in terms of usability, functionality, convenience, credibility, and trust—and whether these perceptions influence adoption intention, engagement, and continued use. By analyzing the interplay between psychological and technological factors, this study primarily addresses some of these gaps.

A common paradigm in consumer behavior research studies, the Theory of Planned Behavior (TPB; Ajzen, 1991), gives a good base for understanding consumer behavior intentions. TPB says that three things affect how someone acts: attitudes (personal evaluations of the behavior), subjective norms (perceived social pressure to engage or not engage in a behavior), and perceived behavioral control (the individual's belief in their ability to perform the behavior) (Ajzen, 1991). To account for the technological dimension of ethical shopping apps, this study also integrates the Unified Theory of Acceptance and Use of Technology (UTAUT; Venkatesh et al., 2003). UTAUT highlights the impact of performance expectancy, effort expectancy, social influence, and facilitating conditions. Thus, the current study incorporates both the TPB and UTAUT to gain further insight into the psychological and technological factors influencing

the adoption intentions of ethical shopping applications, providing a comprehensive understanding of consumer intentions and potential factors influencing their widespread use.

1.1 Problem Statement

This thesis aims to provide information about the real consumer intentions on ethical shopping apps and to answer the following research questions:

- **RQ1**: Do consumers want to use ethical shopping apps?
- **RQ2:** What are the key factors influencing consumers' intentions to adopt ethical shopping apps?
- **RQ3:** What are the main motivations and barriers affecting the adoption intentions and use of ethical shopping apps?

1.2 Practical and academic relevance

This study investigates the adoption intentions of ethical shopping applications, focusing on consumers' intentions, key influencing factors, and the motivations and barriers that impact their usage. Given the increasing importance of sustainable consumption, ethical shopping apps have the potential to help consumers make more informed, values-driven purchasing decisions. However, their adoption remains limited, and it is unclear whether consumers intend to use these apps, what drives their adoption intentions, and what obstacles prevent wider engagement.

From a practical perspective, the findings of this study offer actionable insights for app developers, ethical brands, policymakers, and marketers seeking to increase the adoption and use of ethical shopping applications. By identifying some motivations and barriers influencing adoption intentions, this research can guide marketing strategies, helping businesses tailor their messaging to different consumer segments based on their concerns (e.g., trust issues, usability, or cost). Additionally, this study can shed light on the usage patterns of ethical shopping apps, helping stakeholders understand whether potential users are familiar with these tools and whether these apps represent a viable market opportunity for businesses, ethical brands, and policymakers aiming to promote sustainable consumption. Furthermore, the study's findings provide insights into the factors influencing user adoption intentions, which could help stakeholders better understand how to encourage wider use of ethical shopping applications, whether through improved communication strategies, targeted incentives, or policy initiatives.

From an academic perspective, this study contributes to the growing body of research on ethical technology adoption intentions by integrating behavioral and technological models—specifically, the TPB (Ajzen, 1991) and the UTAUT (Venkatesh et al., 2003). While TPB has been used to examine ethical consumerism, and UTAUT has been applied to general technology adoption intentions, their combined application in the context of ethical shopping apps is largely unexplored. By merging TPB's focus on ethical decision-making and ethical consumerism with UTAUT's emphasis on technology acceptance, this study provides a novel perspective on how psychological and technological factors interact to influence consumer adoption intentions. Additionally, by analyzing motivations and barriers to ethical shopping app adoption intentions, this study extends prior research on ethical consumption and digital tools, offering new insights into the challenges of integrating ethical decision-making into everyday consumer habits.

1.3 Overview of the thesis structure

The following chapter, Chapter 2, details the literature review, specifically focusing on ethical consumption, definition of ethical shopping apps, the role of digital technologies in influencing consumer behavior, as well as ethical decision making. Moral decision-making is explored in this chapter, along with the theoretical frameworks such as TPB (Ajzen, 1991), and technology acceptance is covered with other theoretical frameworks, such as the UTAUT (Venkatesh et al., 2003). Following that, I will present the conceptual map in Chapter 3 and the methods used in this thesis, in Chapter 4 (i.e., data collection through surveys and statistical analysis techniques like regression modeling). I will present the results of that research in Chapter 5 and how consumers view ethical applications as well as what impediments exist to their wide use. Finally, I will discuss the implications of these findings in Chapter 6 and the limitations of the study, and a few possibilities for future research.

2. Literature Review

2.1 Defining ethical consumption

Cooper-Martin and Holbrook (1993) define ethical consumerism as decision-making, purchases, and other consumption experiences that are affected by the consumer's ethical concerns (as cited in Kutaula et al., 2024). This concept is well entrenched in important social and environmental movements that developed in the late 20th century - including fair trade, anti-sweatshop campaigns and sustainability programs (Harrison et al., 2005; Devinney et al.,

2010; Crane & Matten, 2016). Shaw and Riach (2011) note that globalization and increased understanding of the social and ecological repercussions of consumerism has led to the evolution of the idea of ethical consumption.

According to Micheletti et al. (2012), ethical consumption can also be understood as a political action where consumers use their money to encourage companies to change their practices and foster change at the structural level. There is evidence that consumer pressure for companies to be ethical in their operations is on the increase and this pressure is related to the adoption of sustainable production and ethical labor practices (Auger & Devinney, 2007).

2.2 Ethical shopping apps

Ethical shopping apps provide buyers with reliable information on a brand's environmental, social and ethical practices. (Sorum, 2019). With this kind of information, the users are able to make informed decisions proceeding in line with their beliefs and preferences. Additionally, these apps can come with product ratings, certifications, and brand transparency scores allowing the users to check the ethical reputation of the product that is about to be purchased.

Mobile applications, geo-localization, and other recent technologies could solve problems of information search that were identified as some of ethical consumption barriers (Papaoikonomou et al., 2018). Ethical consumption apps emerged as aids that help customers in the decision-making process regarding ethics. Good On You and Shop Ethical! are examples of these applications. They have been designed to equip customers with information on a brands' ethical practices and so assist them to make more informed choices (Sorum, 2019).

However, even though a lot of potential exists for these apps to expand even further, we can have some possible barriers standing in the way to further adoption of the apps (Sorum, 2019).

Not much is known about ethical shopping apps and what consumers think of these applications, if they actually use them, if they think they could be something that could help them make better informed and moral purchases, if they actually bring value and people want to use them or not, if they want to buy from this apps or just check information from specific brands. To understand ethical shopping app adoption intentions, the literature review will next cover two important components of this use: ethical consumption and ethical decision-making.

2.3 Understanding ethical consumption

Ethical consumerism encompasses various activities and considerations, as consumers consider the consequences of their purchasing decisions on society and the environment. Ethical consumption is influenced by several factors, including the magnitude of harm inflicted upon people, social agreement over the activity, the perceived likelihood of harm, the timing of the harm, the closeness of the decision-maker to those affected, and how widely the harm is distributed among individuals (Harrison et al., 2005). Such dimensions encompass a set of ethical considerations that have an impact on the purchasing decisions made.

For instance, believing in environmental sustainability entails selecting suitable options, such as organic foods or other items with a limited negative effect on the environment (Vermeir & Verbeke, 2008). The foremost focus of labor rights, particularly in the case of developing countries, is the consumption of fair-trade products that ensure decent wages and working conditions (Shaw & Shiu, 2002). Due to the diversity of these facets of ethical consumption, one can consider that it is dynamic and encompasses many activities that are ethically driven because it does not assume a single dominant perspective (Crane, 2001). This complexity has led researchers to seek out what ethical consumption is geared by.

2.3.1 Consumer motivations for ethical consumption

There are many motivational reasons for ethical consumerism, such as altruism, moral responsibility, self-identity, or environmental concerns (Auger & Devinney, 2007). Altruistic motives reflect consumers' desire to contribute to the well-being of others, as would be the case of fair wages for farmers or better conditions for industrial workers (White et al., 2019). The concept of moral obligation is very much tied to the idea of moral obligation, which says we have duties to act in accordance with our morals (Manstead, 1999). Self-identity also has significant effects on ethical purchasing because consumers may participate in these behaviors to maintain a sense of intertemporal selves that align with their moral values and ethical beliefs (Shaw & Shiu, 2002). Research shows that individuals who view themselves as socially or environmentally responsible tend to purchase ethical products to align with their values (Hughner et al., 2007; Shaw & Shiu, 2002). Additionally, concerns about environmental degradation and climate change have become significant motivators for ethical consumerism. As awareness of environmental issues has grown, consumers are increasingly inclined to

support brands and products that offer eco-friendly options, such as carbon-neutral shipping or biodegradable packaging (Vermeir & Verbeke, 2008; Kollmuss & Agyeman, 2002).

2.3.2 Barriers of ethical consumption

Although the rhythm of adopting ethical consumption habits is increasing, there are still external factors that prevent people from acting on these motives.

One of the biggest challenges is the abundance of deception in marketing, with many organizations making dubious claims regarding their ethical responsibility only to win users over. Such marketing tactics hurt matters by blurring the lines between reality and hyperbole and when there is a possibility that such actions are being taken for the sole purpose of marketing, consumers tend to dismiss the claim of authenticity (Laufer, 2003). Research by Bray et al. (2011) shows that when consumers have concerns regarding the legitimacy of a brand's claim, the probability of them engaging in an ethical transaction becomes slimmer, which facilitates the need for high accountability.

Second, limited accessibility and high pricing pose significant barriers to ethical consumption (Bray et al., 2011). Despite consumer interest in sustainable purchases, structural issues within supply chains and marketplaces often make ethical products less accessible and more expensive. Vermeir and Verbeke (2008) highlight that while many consumers express the desire to buy ethically, the limited availability and high price of these products create significant obstacles to action. Research suggests that when ethical products are perceived as accessible, consumers are more likely to purchase them (White et al., 2019).

Third, ethical consumption often demands that consumers evaluate multiple ethical attributes—such as labor practices, environmental impact, and supply chain transparency—which can be overwhelming. Studies reveal that the overload and inconsistency of information, along with the difficulty in verifying ethical claims, frequently lead to confusion and inaction among consumers (Papaoikonomou et al., 2018). This information burden can shift consumers from being maximizers (actively seeking the best option) to satisficers (settling for acceptable choices due to the effort involved) (Ibrahim & Al-Ajlouni, 2018).

Finally, an important aspect to consider is that consumers often focus on the end product without considering the ethical implications of its production process. This detachment, known as commodity fetishism, can lead to a lack of accountability and awareness regarding the ethical

aspects of consumption, ultimately acting as a barrier to ethical purchasing decisions (Carrier, 2010).

Another big concern is how complex the ethical decision-making process is, to which the literature review turns next.

2.4 Ethical decision-making

Ethical decision-making, at its most fundamental level, involves evaluating options based on moral principles and acting in accordance with one's ethical beliefs and values. The Rest Model conceptualizes this process in four stages: moral awareness, moral judgment, moral intention, and moral action (Rest, 1986), while Jones (1991) further develops this framework by introducing the concept of moral intensity. This framework suggests that ethical action relies on an individual's ability to recognize an ethical issue, reason morally, and follow through on their judgment. Studies indicate that moral identity and moral intensity—defined as the perceived importance of an ethical issue—play a crucial role in determining ethical behavior (Craft, 2013). The complexity of this process is further compounded by situational influences, social pressures (Trevino, 1986), and emotional responses. Emotional factors such as empathy can encourage ethical action, whereas feelings of guilt or shame can act as deterrents to unethical behavior (Eisenberg, 2000; Haidt, 2001). Research highlights that moral judgments are not based solely on rational thought but are also influenced by affective states, which can either reinforce or undermine ethical behavior (Greene et al., 2002).

To better understand the factors influencing ethical decision-making process and ethical purchasing behavior, it is useful to examine established consumer behavior models, such as the Theory of Planned Behavior (TPB).

2.5 Traditional model of theory of planned behavior and ethical consumption

The TPB (Ajzen, 1991) is one of the most widely used psychological models to predict and explain deliberate human behavior. According to this model, behavioral intention is the closest predictor of actual behavior, with attitudes, subjective norms, and perceived behavioral control (PBC) being the three determinants of intention (Ajzen, 1991).

Attitudes refer to an individual's evaluation of a behavior as positive or negative. They are shaped by beliefs about the behavior's outcomes and whether those outcomes are desirable.

(Ajzen, 1991). In ethical consumption, consumers with positive attitudes toward ethical products are more likely to intend to purchase them (Han & Stoel, 2017). Subjective norms, refer to the perceived social pressures that influence an individual's decision to engage in a particular behavior (Ajzen, 1991). In the context of ethical consumption, these pressures can come from peer groups, social organizations, or digital environments. Research suggests that social media engagement can shape subjective norms, influencing ethical perceptions and consumer intentions (Baskin et al., 2023). The third variable is perceived behavioral control (PBC) and it refers to an individual's assessment of their ability to perform a specific behavior, considering both internal capacities (for example, skills and confidence) and external constraints (resources, time) (Ajzen, 1991). In TPB, PBC influences both behavioral intention and actual behavior, particularly when individuals perceive a high level of control over their actions. Research suggests that PBC is most significant for ethical consumerism, as value-based barriers such as price and availability commonly dictate whether customers follow through on their ethical intentions (Vermeir & Verbeke, 2008).

To increase its predictive ability for ethical consumption, the TPB has been expanded in various research. According to research, including moral norms—which are characterized as a person's sense of personal responsibility to act morally—into the model strengthens its explanatory power, especially when it comes to sustainability and fair trade (Manstead, 2000). Furthermore, consumers' self-identification as ethical consumers influences their purchasing behavior since they are more likely to make ethical purchases if they believe they are socially or ecologically conscientious (Sun & Wang, 2019).

Though the TPB (Ajzen, 1991) offers insightful information about consumer motives, it falls short in addressing the technological factors that impact the uptake of digital technologies intended to promote ethical consumption. The connection of technology adoption and ethical decision-making is exemplified by ethical shopping applications, which calls for the use of models created especially to comprehend consumer behavior in digital settings, such as UTAUT (Venkatesh et al., 2003) and its extension, UTAUT2 (Venkatesh et al., 2012). This approach enables an understanding of both the ethical motivations that drive consumer behavior and the technological factors that influence app adoption intentions.

2.6 The unified theory of acceptance and use of technology

While TPB (Ajzen, 1991) provides a broader framework for understanding human decision-making, including ethical consumption, the Technology Acceptance Model (TAM; Davis, 1989) focuses on technology adoption intentions by emphasizing crucial factors, such as perceived ease of use and perceived usefulness. These factors are crucial among the factors for acceptance and usage intentions of technology, particularly digital instruments (Venkatesh & Davis, 2000), like ethical shopping apps. Therefore, these two models provide a more complete idea about how and why people do some behaviors. Gefen et al. (2003) conducted a lot of research on ease of use-related interface quality. Ease of use refers to how simple and intuitive a techonology is, which can affect users' trust and perceived credibility of an app. If users are able to use a platform easily, they would likely trust it and consider it credible, hence facilitating adoption intention.

To advance the technology adoption behavior theory and to address the shortcomings of the classical behavior models in explaining technology adoption intentions, Venkatesh et al. (2003) came up with the Unified Theory of Acceptance and Use of Technology (UTAUT) that combines ideas from some behavior models like TAM.

The UTAUT combines key elements from a range of technology adoption theories and has been widely applied to predict user acceptance of internet-based tools. Four key determinants influence behavioral intention under UTAUT: effort expectancy, facilitating conditions, performance expectancy, and social influence. While these have been validated for various technological environments, such as higher education (Al-Qaysi et al., 2024) and smart city applications (Chuang et al., 2022), their active influence on adoption intentions of ethical shopping apps remains an open question that warrants further investigation.

Performance expectancy refers to an individual's belief that using a technology will enhance their ability to achieve a desired outcome. Prior research suggests that customers will adopt technologies whenever they perceive that these technologies are providing functional value, e.g., greater efficiency or better decision-making support (Venkatesh et al., 2003).

Effort expectancy is the perceived ease of use of a technology and has been established as an important predictor of technology acceptance in many domains (Taylor & Todd, 1995; Venkatesh et al., 2003).

Users will use a technology more when they perceive it is easy to use and have to put minimal effort into using it. For example, in ethical shopping apps, effort expectancy can be implicated in adoption intentions when customers find the interface and navigation to be user-friendly, which reduces the cognitive burden of evaluating a product's ethical attributes.

Social influence captures the extent to which individuals perceive that people they consider important, such as friends, family, or ethical brands, endorse the use of a given technology (Venkatesh et al., 2003). In the context of ethical consumption, social influence extends beyond direct peer pressure to include ethical obligation and self-identity, as consumers may align their purchasing decisions with socially accepted ethical norms and values (Shaw et al., 2003).

Facilitating conditions refer to the external resources and infrastructural support that enable technology use, such as access to the necessary devices, compatibility with other technologies, and the availability of customer support (Venkatesh et al., 2003). Past research has linked adequate facilitating conditions with higher technology adoption intention, as people will be ready to utilize a technology if they are certain they possess the help they need in order to employ it to maximum benefit.

Since UTAUT has been universally applied in studies of technology adoption intentions, it presents a handy conceptual foundation for analyzing ethical shopping applications.

2.6.1 UTAUT2: Extending Technology Adoption Models to Consumer Contexts

While UTAUT clarifies the acceptance of new technology, Venkatesh, et al. (2012) expanded the model into UTAUT2 by adding new components that help understand the factors of technology acceptance by consumers. In addition to these, UTAUT2 also adds constructs like hedonic motivation, price value, and habit which are applicable in different terms of consumer perception, such as ethical shopping apps.

Hedonic motivation is the satisfaction gained from engaging in an activity derived from using a technology (Venkatesh et al., 2012). Research shows that the likelihood that users will interact with a program is higher in case there are games or activities to do (Venkatesh et al., 2012). For example, ethical shopping applications with gamification or attractive visuals may have higher adoption intentions rates, as engaging user experiences are often associated with increased user retention and interaction.

Perceived value, in UTAUT2, measures how users see the benefits of using an app in comparison to its financial costs. Subscription or in–app purchase model apps may be subjected to adoption barriers if consumers do not perceive the value as outweighing the cost (Venkatesh et al., 2012).

Finally, habit — defined as the extent to which a behavior becomes automated — takes a part in long-term technology adoption (Venkatesh et al., 2012). For example, consumers who regularly use mobile apps for shopping are more likely to incorporate ethical shopping apps into their practice over time, reinforcing app adoption.

2.6.2 Hypotheses Development

Based on the literature reviewed, and using TPB (Ajzen, 1991) as a framework, this study hypothesizes:

- **H1**: Positive attitudes toward ethical consumerism will positively influence consumers' behavioral intentions to adopt ethical shopping apps (Ajzen, 1991; Han & Stoel, 2017)
- **H2**: Greater perceived behavioral control over ethical consumerism will positively influence consumers' behavioral intentions to adopt ethical shopping apps (Ajzen, 1991)

To account for the role of technology adoption intentions in ethical shopping, this study incorporates UTAUT (Venkatesh et al., 2003) and UTAUT2 (Venkatesh et al., 2012), and hypothesizes:

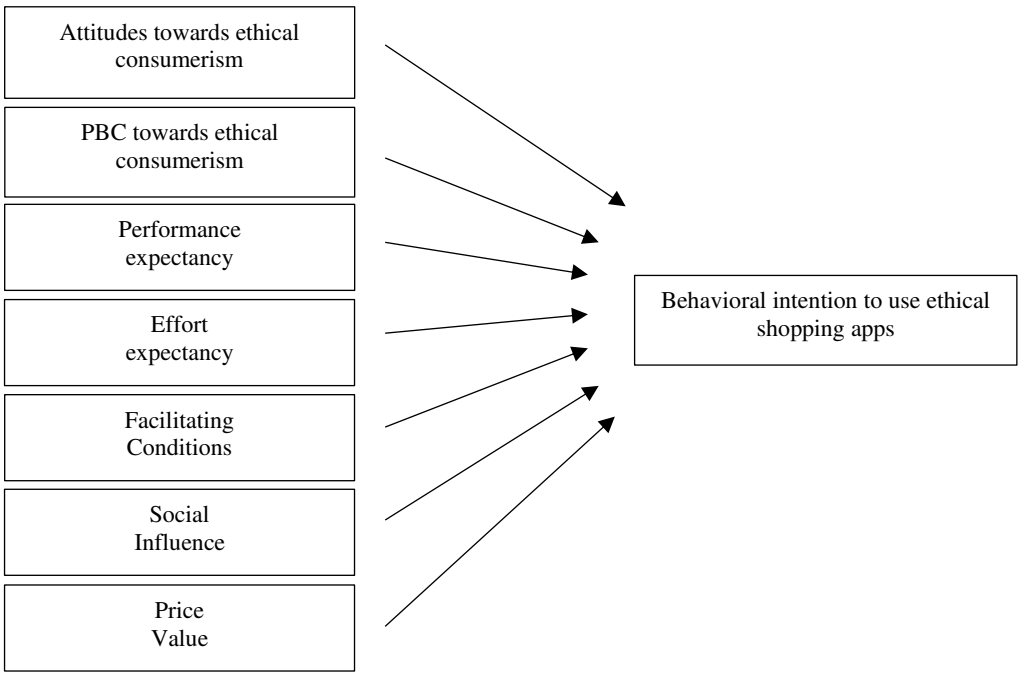
- **H3**: Performance expectancy, defined as the belief that ethical shopping apps will improve purchasing decisions, will positively influence consumers' behavioral intentions to adopt these apps (Venkatesh et al., 2003)
- **H4**: Effort expectancy, defined as the perceived ease of using ethical shopping apps, will positively influence consumers' intentions to adopt these apps (Venkatesh et al., 2003; Taylor & Todd, 1995)
- **H5**: Facilitating conditions, such as the availability of technological support and resources, will positively influence consumers' intentions to use ethical shopping apps (Venkatesh et al., 2003)

- **H6**: Social influence, including peer influence and endorsement by ethical brands, will positively affect consumers' intentions to adopt ethical consumption apps (Venkatesh et al., 2003; Shaw et al., 2003)
- **H7**: High perceived costs associated with using ethical shopping apps (e.g., subscription fees or in-app purchases) will negatively influence consumers' behavioral intentions to adopt these apps. (Venkatesh, et al., 2012)

3. Conceptual Model

This study's hypotheses were selected based on the integration of the Theory of Planned Behavior (TPB) with Unified Theory of Acceptance and Use of Technology (UTAUT/UTAUT2) frameworks. The TPB highlights the importance of individual attitudes and perceived behavioral control as predictors of behavioral intentions, thereby contributing to an understanding of ethical consumerism. UTAUT and its extension, UTAUT2, focus on performance expectancy, effort expectancy, social influence, facilitating conditions, and price value as determinants of technology adoption intention. By combining constructs from both models, this study aims to comprehensively examine the factors influencing consumers' intentions to adopt ethical shopping apps. This recognizes that using such apps is shaped by both ethical (captured by TPB) and technological (the UTAUT/UTAUT2 do this) mechanisms. The full conceptual model can be found in Figure 1.

Figure 1- *Conceptual Model*



4. Methodology

4.1 Research design

This study employed a cross-sectional survey design to explore consumers' intentions to adopt ethical shopping apps and test the hypotheses developed based on the TPB (Ajzen, 1991), and the UTAUT (Venkatesh et al., 2003).

An online survey created and disseminated through the Qualtrics platform was used to gather quantitative data. This platform was chosen because it effectively reached a wide range of people and was able to capture the behavioral factors, and theoretical constructs being studied. People with different levels of awareness and involvement in ethical consumption were the target audience for the survey.

Only two of three constructs from TPB were retained (Ajzen, 1991): attitudes and PBC. The full TPB model was not included because subjective norms overlapped with social influence from UTAUT, leading to redundancy. By integrating TPB with UTAUT, this study accounts for both behavioral and technological adoption intentions factors while ensuring a more parsimonious model. All the core UTAUT variables—performance expectancy, effort expectancy, social influence, and facilitating conditions—were measured because they are proven determinants of technology adoption intentions (Venkatesh et al., 2003). Price value, a variable in UTAUT2, was also measured because it has been found relevant in consumer choice relating to ethical shopping apps, whose adoption behavior can be susceptible to economic limitations (Venkatesh et al., 2012). Behavioral intention was used as the dependent variable measure to assess participants' intention to utilize apps for ethical shopping.

4.2 Participants and data cleaning

Participants were recruited using social media platforms, including Instagram, Facebook, WhatsApp and LinkedIn and via email to reach communities interested or not in sustainability and ethical consumption. Social media recruitment was chosen for its cost-effectiveness and ability to target a diverse audience. Posts were designed to appeal to individuals interested in ethical consumerism, ensuring relevance to the study's objectives. No financial or material incentives were provided, and participation was entirely voluntary and obtained through my social and professional network.

A total of 181 participants completed the survey, and all responses were valid, as no participants failed the attention-check question. To ensure data quality, the survey included

an attention-check question: “I have never used a computer or a smartphone”. This statement was adapted from a question of the paper by Curran et al. (2019), so that it was more likely to be false for all participants. Participants had only two answers possible: “Agree” or “Disagree”, and they were expected to select “Disagree” to demonstrate attentiveness. Since all participants answered this question correctly (“Disagree”), no responses were removed for inattentiveness. Consequently, 181 responses were included in the final analysis after data cleaning.

Prior to data collection, the required sample size was estimated based on the rule of thumb for multiple regression analysis, which recommends a minimum of 20 participants per independent variable (Tabachnick & Fidell, 2013). Given that this study included seven independent variables, the minimum required sample size was 140 participants ($7 \times 20 = 140$). The final sample of 181 participants exceeded this threshold, ensuring adequate statistical power for the planned analyses.

Participants ranged in age from 18 to 61 years (M = 27.91, SD = 9.764), and the sample consisted of 48.1% males (N = 87), and 51.9% females (N = 94). Most participants were Portuguese (N = 176; 97.2%), some were German (N = 3; 1.7%), and there also was 1 Palestinian and 1 Greek (N = 1; 0.6%). Regarding education, 5.5% (N = 10) had completed secondary education (10^{th} grade to 12^{th}), 64.6% held a bachelor’s degree (N = 117), 29.3% had obtained a master’s degree (N = 53), and 0.6% held a PhD, only 1 person.

4.3 Materials and Procedure

The questionnaire was based on validated scales from previous research in consumer behavior and technology adoption intentions, ensuring the validity and reliability of the measures. The survey was designed to be completed in approximately five to ten minutes and consisted of Likert-scale, multiple-choice, binary, and open-ended questions to maintain participant engagement while capturing the necessary depth of information.

The first section of the survey provided an introduction to the study, outlining its purpose, anonymity assurances, voluntary participation, estimated completion time, and contact details for further inquiries. Participants were informed that their responses would be used solely for academic research and that all data would be presented in an aggregated manner. Before proceeding to the survey, participants were required to provide informed consent.

The second section focused on ethical consumerism and had a definition of ethical products to ensure greater reliability while answering the survey. Ethical products were defined as goods or services that are produced, traded, and consumed in a way that minimizes harm to people, animals, and the environment, while adhering to principles of fairness, sustainability, and social responsibility. This definition was provided at the beginning of the section to ensure that all participants had a shared understanding of what constituted an ethical product, reducing potential variability in interpretations and increasing the internal validity of the responses. Following this definition, the section measured attitudes toward ethical consumption, perceived behavioral control, and self-reported purchasing frequency. Attitudes toward ethical consumption were assessed using three items adapted from Ajzen (1991) and Gleim et al. (2013), which measured participants' evaluations of purchasing ethical products. Participants responded on a seven-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" to statements such as "I believe buying ethical products is the right thing to do". Higher scores on these items reflected stronger positive attitudes toward ethical consumption. PBC was measured using three items adapted from Ajzen (1991), which assessed participants' perceived ability to engage in ethical shopping. PBC measure included sentences like "I feel confident in my ability to identify ethical and sustainable products". Responses were recorded on a seven-point Likert scale, with higher scores indicating a greater perceived ease of purchasing ethical products.

To assess actual purchasing behavior, participants answered a binary yes/no question: "Do you usually choose to buy ethical products over conventional ones?" A response of "Yes" indicated self-reported engagement in ethical purchasing, whereas a response of "No" suggested a lower frequency of ethical product choices.

The third section examined the adoption of ethical shopping applications, including prior experience, awareness, motivations, and barriers to use. Participants responded to a binary yes/no question, "Have you used an ethical shopping app?" to assess adoption rates. Those who selected "Yes" were then asked to indicate their awareness of specific applications by responding to "Do you know any of these ethical shopping applications?" with options such as "Good On You", "Shop Ethical!", "Boycott", "DoneGood". To understand motivations for using ethical shopping apps, participants who had prior experience with such applications selected from a predefined list of potential reasons, including for example options like "Finding environmentally friendly products", "Supporting fair labor practices", "Being part of a socially

responsible community" and "Convenience". Participants who had never used an ethical shopping app selected potential motivations to use and barriers to adoption intention from a similar predefined list, which included for example "Skeptical of app credibility" or "Ethical products are expensive", "Do not fully trust app's information". These questions regarding motivations and barriers were only included to provide descriptive insights into participants' perceptions but were not used in inferential statistical analyses, as they were not part of the core theoretical model tested in this study. The information of these descriptive questions is reported in the results section.

The fourth section measured technology adoption intention constructs in all participants based on the UTAUT and its extended version UTAUT2, originally developed by Venkatesh et al. (2003, 2012). The constructs included performance expectancy, effort expectancy, social influence, facilitating conditions, price value. Performance expectancy was assessed with three items measuring the perceived usefulness of ethical shopping apps, including questions like "I believe using an ethical shopping app will help me make more informed purchasing decisions". Effort expectancy, which measured the perceived ease of use, included three items such as "I believe an ethical shopping app would be easy to use". Social influence, which assessed the impact of peers on app adoption intentions, was measured using three items such as "If people I know used ethical shopping apps, I would be more likely to try one". Facilitating conditions, which referred to the availability of resources supporting app usage, were measured with three items as well such as "I have access to the resources necessary to use an ethical shopping app". Price value from UTAUT2 (Venkatesh et al., 2012), which measured participants' perceptions of the cost-benefit trade-off of using an ethical shopping app, included statements like "The benefits of using an ethical shopping app outweigh the costs associated with it".

Behavioral intention towards ethical shopping apps, the dependent variable, assessed the likelihood of future adoption and included three statements like "I intend to use an ethical shopping app in the near future". All technology adoption intention constructs were measured using a seven-point Likert scale to maintain consistency with the original validated instruments.

The final section collected demographic information, including age, gender, nationality, education, and income. Age was measured as an open-ended numerical input, gender was assessed using a multiple-choice question that included options for male, female, non-binary/third gender, and prefer not to say, and nationality was recorded as an open-ended response. Education level was measured as an ordinal categorical variable, while income was

assessed using a self-reported comparative scale adapted from Goodman et al. (2001), which allowed participants to classify their income relative to others in their country.

To account for potential response biases, the survey also included a social desirability scale using items adapted from the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1984) and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). The items included statements such as "I always practice what I preach." Responses were recorded on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". This measure was initially included as a control variable to assess whether social desirability influenced self-reported behaviors related to ethical consumption. However, reliability analysis of the four-item scale resulted in a Cronbach's α of .30, even after reverse-coding the item "I always practice what I preach." Given this low reliability, the variable was not included in further analyses. For more details, the full survey is available in Appendix 1.

5. Results

5.1 Overview of the variables and scale assessment

The data analysis was conducted using IBM SPSS Statistics. All the dependent, independent variables, and Likert-scales items (attitudes and perceived behavior control towards ethical consumption, performance expectancy, effort expectancy, social influence, facilitating conditions, and price value) measuring constructs from the TPB, UTAUT, and UTAUT2 were treated as continuous variables in SPSS. Each of these variables was measured through three items using a seven-point Likert scale.

To assess the internal consistency of these multi-item constructs from the seven independent variables and the dependent variable, Cronbach's α was calculated for each scale (Bland & Altman, 1997). A reliability coefficient of .70 or higher was considered acceptable (Bland & Altman, 1997), while values between .60 and .70 were considered acceptable with caution. If a construct showed low reliability, further examination was conducted, including item removal analysis, to determine whether reliability could be improved.

Reliability analysis indicated that attitudes toward ethical consumption, had a Cronbach's α of .95, demonstrating strong internal consistency. Perceived behavioral control, also measured through three items, resulted in a Cronbach's α of .64, having a moderate reliability. Performance expectancy had a Cronbach's α of .87, effort expectancy with α = of .72 and

facilitating conditions showed good internal consistency with a Cronbach's α of .71. Social influence, however, initially had a Cronbach's α of .54, which was below the recommended threshold. After removing one item ("People who are important to me think that I should use an ethical shopping app"), the reliability improved to .73, allowing it to be retained in the analysis. Price value, the only variable included from UTAUT2 (Venkatesh et al., 2012), had a Cronbach's α of .86, confirming its reliability. Finally, the dependent variable, behavioral intention towards ethical shopping apps, had one of the highest internal consistencies, with a Cronbach's α of .94. For more details Appendix 2 contains the complete analyses.

Demographic variables were treated according to their measurement level. Age was recorded as a continuous variable. Gender was originally categorical and later dummy-coded, with men coded as one and women coded as zero. Nationality was an open-ended response that was recoded into a binary variable, where Portuguese respondents were coded as one, while all other nationalities were coded as zero. Education was measured as an ordinal variable, where one represented secondary education, two corresponded to a bachelor's degree, three indicated a master's degree, and four referred to a PhD. Income was also treated as an ordinal variable, ranging from one for far below average to five for far above average.

Two additional behavioral questions were included in the survey. Purchasing behavior of ethical products was measured using a yes or no question, which was dummy coded as one for yes and zero for no. Similarly, previous use of ethical shopping apps was assessed with a question, which was also dummy coded as one for yes and zero for no. These two dummy variables were included in the analysis to understand if prior ethical purchasing behavior and previous experience with ethical shopping apps influenced participants' behavioral intention to adopt such applications. Given that past behavior is a strong predictor of future behavioral intentions (Sheeran et al., 1999), these variables were treated as covariates in the regression analysis to control for their potential impact.

5.2 Descriptive Statistics

Summary statistics provide important insights about the dataset and the variables. Descriptive statistics were calculated for all continuous variables, including mean and standard deviation, while categorical variables were summarized using frequencies and percentages.

The mean score for attitudes toward ethical consumption was 5.36 (*SD* = 1.60). Perceived behavioral control had a mean score of 3.66 (*SD* = 1.14). Performance expectancy resulted in a mean of 5.38 (*SD* = 0.97). Effort expectancy had a mean score of 4.94 (*SD* = 1.10). Social influence had a mean of 5.47 (*SD* = 1.07). Facilitating conditions had a mean of 5.70 (*SD* = 0.99). Price value resulted in a mean score of 4.22 (*SD* = 1.26).

A one-sample t-test was conducted to compare behavioral intention scores against the scale midpoint (4). The results indicate a significant difference, $t(180) = 5.86$, $p < .001$, with a mean score ($M = 4.63$, $SD = 1.44$) significantly above the midpoint. The mean difference (0.63) and confidence interval [0.42, 0.84] confirm that consumers exhibit behavioral intentions to adopt ethical shopping apps, as this variable is reliably above a neutral/moderate point.

Regarding purchasing behavior, 27.6% of participants reported usually choosing ethical products over conventional ones, while 72.4% stated they did not. When asked about previous use of ethical shopping apps, 6.1% of participants indicated that they had used one, while 93.9% had not. For the complete tables of descriptive statistics for covariates, as well as the dependent and independent variables, see Appendices 3 and 4.

5.3 Bivariate Correlations

Before conducting the regression analysis, Pearson's bivariate correlations, which can be found in Table 1, were computed to examine the relationships between the independent variables and the dependent variable.

Table 1- *Bivariate Correlations*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.ATT	-														
2.PBC	.38**	-													
3.PE	.52**	.30**	-												
4.EF	.11	.37**	.21**	-											
5.SI	.06	-.01	.43**	.14	-										
6.FC	.09	.22**	.14	.59**	.16*	-									
7.PV	.45**	.48**	.39**	.08	.08	.15*	-								
8.BI	.37**	.42**	.59**	.12	.22**	-.01	.54**	-							
9.UEA	.01	.27**	.14	.22**	-.04	.23**	.06	.19*	-						
10.BEP	.11	.23**	.0.4	.20**	-.09	.15*	.12	.15*	.31**	-					
11.Age	.24**	.28**	.19	.11**	.01	-.01	.24**	.23**	.01	.02	-				
12.PORT	.08	.09	.09	.05	.11	.07	.20**	.10	-.05	.04	.06	-			
13.MALE	-.24**	-.09	-.17*	.02	-.07	-.01	-.18*	.19*	-.01	-.11	.03	-.18*	-		
14.INCO	.18*	.16*	.20**	.30**	.11	.30**	.12	.19*	.27**	.06	.18*	-.07	.04	-	
15.EDUC	-.01	.19**	.04	.13	-.02	.11	.04	.25**	.19*	.09	-.03	.02	-.05	.24**	-

Note: ATT = Attitudes towards ethical consumerism, PBC = Perceived Behavioral Control towards ethical consumerism, PE = Performance Expectancy, EF = Effort Expectancy, SI = Social Influence, FC = Facilitating Conditions, PV = Price Value, BI = Behavioral Intention to use ethical shopping apps, UEA = Used ethical shopping apps (participants who had previously used ethical shopping apps, BEP = Buy Ethical Products (consumers who regularly buy ethical products), Age = Age of the participants, PORT = Participants with Portuguese Nationality, MALE = Male participants, INCO = Income, EDUC = Highest education level of the participants

5.4 Motivations and Barriers to ethical shopping apps adoption

To gain some initial insights into the barriers and drivers of adoption intentions, participants were asked for input regarding their incentives for using ethical shopping apps, as well as challenges to their potential adoption.

Among those who already use ethical shopping apps (6% of participants), the most frequently mentioned motivations were finding environmentally friendly products (30%) and being part of a socially responsible community (30%), followed by avoiding animal cruelty products (19%), supporting fair labor practices (14%), and convenience (7%).

For non-users, the most cited factors that could encourage adoption were as well, being part of a socially conscious community (24%) and finding eco-friendly products (23%). Additionally, supporting fair labor conditions (19%), convenience (18%), and avoiding animal cruelty products (16%) were also mentioned. In contrast, the most referred deterrents to the usage of ethical shopping apps were concerns about cost and lack of awareness. The most frequently reported barriers were affordability concerns (40%), as many respondents perceived ethical products as too expensive, followed by lack of awareness (25%), indicating a need for greater market penetration and promotional efforts. Trust-related issues (15%) were also a concern, with respondents expressing skepticism regarding the credibility of ethical claims made by these apps. Additionally, lack of interest in ethical shopping (12%) suggested that some consumers do not prioritize ethical considerations when making purchases. Finally, preference for offline shopping (8%) was noted as a potential limitation to the widespread adoption of these apps.

For those who currently use ethical shopping apps, the most significant challenges experienced were affordability (62%), reinforcing concerns over price as a major barrier. Additionally, trust in app information (16%) was a concern, as some users questioned the reliability of ethical claims presented on these platforms. Difficulty in finding products that align with ethical priorities (11%) and the perception that the app does not significantly impact purchasing decisions (11%) were also identified as relevant issues.

5.5 Hypothesis Testing

A hierarchical regression analysis tested the hypotheses regarding the factors influencing consumers' behavioral intentions to adopt ethical shopping applications. Two models were developed: Model 1 included only the independent variables, while Model 2 incorporated control variables such as demographic factors and previous ethical purchasing behavior.

In Model 1, the independent variables explained 50.9% of the variance in behavioral intention, with an adjusted R^2 of .49, indicating a strong model fit. The model was statistically significant with $F(7,173) = 25.59$, $p < .001$, confirming that the predictors significantly contributed to explaining behavioral intention. Performance expectancy had a significant positive effect ($b = 0.67$, $p < .001$), providing support for H3, which posited that consumers who believe ethical shopping apps will improve purchasing decisions are more likely to have higher adoption intentions. Price value was also a significant predictor ($b = 0.38$, $p < .001$), supporting H7 by indicating that consumers who perceive the benefits of using ethical shopping apps as outweighing the costs are more likely to adopt them. Perceived behavioral control had a significant positive effect ($b = 0.23$, $p = .007$), supporting H2 by confirming that consumers who feel they have control over their ethical purchasing behavior are more inclined to use ethical shopping apps. However, facilitating conditions had an unexpected significant negative effect ($b = -0.28$, $p = .005$). While H5 predicted a positive relationship, the results suggest the opposite effect, indicating that individuals who perceive higher external support for ethical shopping may actually have lower behavioral intention to use ethical shopping apps.

The other variables did not show significant effects in Model 1. Although attitudes toward ethical consumerism, effort expectancy, and social influence were all significantly correlated with behavioral intention in the bivariate analysis, they lost significance when included in the regression model alongside other predictors. Attitudes toward ethical consumerism were not significantly associated with behavioral intention ($b = -0.06$, $p = .306$), leading to the rejection of H1. Effort expectancy was also not significant ($b = 0.06$, $p = .504$), failing to support H4.

Similarly, social influence did not significantly predict behavioral intention ($b = 0.04$, $p = .619$), leading to the rejection of H6. This suggests that, while these factors may have some relevance in ethical shopping adoption intentions, their effects are overshadowed when considering the more influential predictors identified in this study, namely performance expectancy and price value.

Model 2 incorporated demographic and behavioral covariates, increasing the explained variance to 56.3% ($R^2 = .56$, Adjusted $R^2 = .53$). The model remained statistically significant with $F(14,166) = 15.28$, $p < .001$. The inclusion of these variables resulted in a small but significant increase in predictive power ($\Delta R^2 = .05$, $F = 2.95$, $p = .006$). Education was the only demographic variable with a significant effect ($b = 0.50$, $p < .001$), suggesting that individuals with higher education levels are more likely to adopt ethical shopping applications. Other control variables, including gender, nationality, income, and age, were not significantly associated with behavioral intention. Similarly, prior ethical products purchasing behavior ($b = 0.19$, $p = .317$) and previous use of ethical shopping apps ($b = 0.33$, $p = .321$) were also non-significant.

Despite the addition of control variables, the core predictors from Model 1 remained largely stable. Performance expectancy continued to have a strong positive effect ($b = 0.62$, $p < .001$), reinforcing its role as the most influential predictor of behavioral intention. Price value remained significant ($b = 0.38$, $p < .001$). Facilitating conditions maintained negative ($b = -0.31$, $p = .001$), reinforcing the unexpected finding that external support does not necessarily lead to increased intention to use ethical shopping apps. However, perceived behavioral control, which was significant in Model 1, lost significance in Model 2 ($b = 0.14$, $p = .110$), suggesting that its effect may be confounded by demographic factors.

Overall, the results provided support for H2, H3, and H7, confirming the importance of perceived behavioral control, performance expectancy, and price value in predicting behavioral intention. However, H1, H4, H5, and H6 were not supported, as attitudes, effort expectancy, and social influence did not have significant effects, and facilitating conditions unexpectedly showed a negative relationship. These findings highlight the role of perceived usefulness and cost-benefit evaluations in shaping consumer intentions, while also suggesting that external facilitating conditions may not necessarily encourage app adoption intentions. For more details Appendix 6 contains the complete analyses.

6. Discussion

6.1 Summary of results

The results of this thesis indicate that consumer intention to use ethical shopping applications is mainly based on performance expectancy and price value. Although perceived behavioral control was significant at first, it did not predict behavior when demographic variables were added to the model. Interestingly, facilitating conditions had a negative influence, which suggests that the perceived availability of external resources may not translate to increased intention to use these apps.

While attitudes towards ethical consumerism and social influence showed significant correlations in the bivariate analysis (when analyzed individually), they were not significant predictors in the regression model (when controlled for multiple variables at once). Effort expectancy was not significant at any stage of the analysis. Of demographic variables, education had an effect (higher education, higher intention). While prior ethical purchasing behavior and previous use of ethical shopping apps showed significant correlations in the bivariate analysis, they were not significant predictors in the regression model. Overall, while some factors are related to adoption intentions, they do not independently predict them when accounting for other variables (there are stronger predictors).

Participants spoke on the reasons they chose to use ethical shopping apps and what deterred them from using them. The most common reasons participants cited for using ethical shopping apps were being part of a socially responsible community and the ability to find eco-friendly products, followed by avoiding animal cruelty, supporting fair labor conditions, and convenience.

Many participants said that the ethical products were too costly, so price seemed to be a major factor limiting the intention to use ethical shopping apps. Lack of awareness about the existence of such apps emerged as another key challenge, indicating the need for greater market penetration and promotional efforts. Additionally, trust concerns regarding the reliability of brand information presented in these apps were a significant deterrent. Also, some participants expressed a general disinterest in ethical shopping, suggesting that ethical considerations are not a priority for all consumers and lastly, some participants preferred offline shopping, which could hinder the universal adoption intentions of digital technology in ethical consumerism.

6.2 Connection to the existing literature

This study's significant impact of performance expectancy on adoption intentions is one of the most notable findings, as it confirms that consumers are more likely to use ethical shopping apps if they believe they will help them make purchasing decisions (Venkatesh et al., 2003). This emphasizes the significance of pragmatic benefits and practical advantages as opposed to merely moral ones. In line with UTAUT2 findings (Venkatesh et al., 2012), price value also surfaced as a significant factor, suggesting that, before embracing these applications, consumers determine whether the perceived benefits outweigh the costs.

Contrary to earlier research that suggested ease of use is a key factor in the adoption of technology (Taylor & Todd, 1995), effort expectancy was not a significant predictor. According to this research, this may tell us that users are already accustomed to mobile shopping apps, which may allay usability worries.

Adoption intentions was negatively impacted by facilitating conditions, which were hypothesized to have a positive impact. This discovery may imply that consumers who already feel supported in making ethical purchases may not see the need for an additional tool. Instead, they may rely on existing offline shopping habits or conventional sustainability certifications rather than adopting ethical shopping apps (McKinsey & Company, 2023).

Additionally, social influence did not have an impact as initially anticipated, which runs counter to research that suggests peer pressure shapes ethical consumption (Venkatesh et al., 2003; Shaw et al., 2003). It is possible that social influence did not emerge as a significant predictor because it was perceived as high across the entire sample, limiting its ability to differentiate between those with high vs. low adoption intention. If most participants already felt strong social norms favoring ethical consumption, then variations in social influence may not have played a decisive role in predicting behavioral intention. Future research could explore whether social influence plays a stronger role in settings where perceptions of ethical norms vary more across consumer groups, or whether different types of social influence (e.g., direct peer pressure vs. social media exposure) impact adoption intentions differently.

The study also questions presumptions regarding how attitudes toward ethical consumption influence the uptake of apps. The results show that attitudes by themselves have significantly predict adoption intention, as earlier research suggesting that strong ethical attitudes should

result in higher engagement with ethical consumption tools (Han & Stoel, 2017). When the analysis accounts for other factors, it ceases to be important. This supports research that contends that habitual behaviors, convenience, and considerations of personal benefit are just as important to ethical consumption as moral values (Sun & Wang, 2019). The findings imply that, while ethical attitudes may have an impact on overall purchasing preferences, they do not always correspond to the use of particular digital tools for ethical consumption.

Furthermore, when demographic factors were added, PBC lost its predictive power, suggesting that its initial significance was due to its association with other factors rather than an independent effect on behavioral intention. Specifically, the bivariate correlation analysis showed a significant relationship between PBC and education, indicating that individuals with higher education levels tend to have both higher PBC over ethical purchasing and greater intention to use ethical shopping apps. This suggests that education may have been confounding the relationship between PBC and BI, rather than PBC directly influencing BI.

Lastly, intention was influenced by demographic factors. Education was a significant predictor among them, with those with higher levels of education being more likely to use applications for ethical shopping. Interestingly, prior ethical purchasing behavior and previous use of ethical shopping apps were correlated with behavioral intention in the bivariate analysis but did not remain significant in the regression model. This suggests that the significant predictors in the model may account for both past and future ethical consumption behavior, reducing the independent effect of prior ethical purchasing behavior on behavioral intention.

Past studies have often shown that not having easy and trustworthy information is a main barrier to ethical buying choices (Papaoikonomou et al., 2018). Ethical shopping apps try to fix this by giving shoppers clear details, scores, and reliable facts about products and brands. But this study found that that skepticism toward app credibility and trustworthiness negatively impacts adoption intentions, confirming what earlier research says about how seen trust is key in consumer habits (Carrington et al., 2014; Pavlou, 2003). The presence of trust issues also links to wider studies on digital trade, which shows that trust is key in consumer use of online buying sites (Gefen & Straub, 2003).

6.3 Implications

This study contributes to both managerial and academic perspectives on future adoption of ethical shopping applications.

From a managerial perspective, one of the findings of this study is that a proportion of participants had never heard of ethical shopping apps. While low market awareness may be an obstacle to adoption intention, it is not the only challenge—many consumers who are aware of these apps still choose not to use them. This suggests that beyond increasing visibility, addressing concerns related to usability, trust, and perceived value is essential. For apps like these to attract ethical consumers, there is a need for both awareness-building and credibility-enhancing efforts. Developers and ethical brands should invest in marketing campaigns, partnerships with sustainability influencers, and collaborations with mainstream e-commerce platforms to enhance exposure. So even when awareness is achieved, significant barriers remain and this highlights a challenge: ensuring that ethical shopping apps are not only known but also perceived as truly valuable and practical tools for facilitating responsible consumption.

Another key implication of this study is the importance of aligning ethical shopping apps with the motivations consumers cited for using them. The most frequently mentioned reasons for adoption were being part of a socially responsible community and the ability to find eco-friendly products. These findings suggest that apps should incorporate community-driven features, such as social media integration, peer recommendations, and interactive ethical challenges, to foster a sense of collective ethical action. Additionally, given that eco-friendliness and fair labor conditions are top priorities for users, apps should emphasize clear sustainability ratings and fair trade certifications. Lastly, as convenience remains a driver, developers must focus on ensuring a seamless, user-friendly experience, making it as effortless as possible for consumers to integrate ethical shopping into their routines. Strengthening these aspects could enhance both adoption and sustained engagement with ethical shopping applications.

There are managerial implications to the unanticipated adverse impact of facilitating conditions. It implies that customers who already feel encouraged and supported to engage in ethical shopping might not see the need to add another tool. As a result, ethical shopping apps need to set themselves apart by providing distinctive value propositions that go beyond what customers can already obtain through conventional channels, like sustainability certifications or offline

ethical labels. Apps for ethical shopping must present themselves as supplements to current ethical consumption practices rather than as a substitute for them.

From the results we can understand that customers are more inclined to use ethical shopping apps when they believe the financial advantages outweigh the disadvantages, as ethical consumption is frequently seen as being financially restrictive (Bray et al., 2011). Developers should consider offering incentives, discounts, or price-matching features to make ethical choices more accessible to price-conscious consumers.

Furthermore, this study shows that adoption intention is not solely driven by ethical attitudes, supporting the well-established ethical intention-behavior gap (Carrington et al., 2014). Apps for ethical shopping must not only educate users but also inspire them to take action, for instance, by gamifying content, offering rewards, or incorporating social media elements that promote consistent use. Developers should implement behavioral nudges such as default settings that recommend ethical alternatives, real-time impact tracking (e.g., carbon footprint saved), and peer influence features that show what other ethical consumers are purchasing. These interventions could help translate ethical intentions into sustained adoption and use.

Overall intention to use these apps was moderately high (M = 4.63 in a 7-point Likert scale) and this implies that maybe there is a market opportunity here, and developments can be done because there is interest from consumers. This also implies that, even though there is interest in ethical shopping apps, many consumers are still unsure or hesitant to use them because of the barriers they mention to their potential adoption: budgetary limitations, doubts about their credibility, or lack of knowledge. Ethical shopping apps need to concentrate on strategic awareness campaigns, credibility-building techniques, and incentives that make moral decisions more appealing to boost adoption rates. Intent alone does not always translate into behavior, reinforcing the importance of designing interventions that actively drive engagement rather than relying on passive interest.

Still from a managerial perspective, ethical shopping apps are most likely to be embraced by consumers when they perceive a clear benefit, and when these apps are perceived as providing reliable, transparent, and realistic support for making ethical shopping decisions. Developers need to build credibility with third-party verifications and transparent ethical ratings, as well as partnerships with trusted sustainability organizations. Partnering with reputable NGOs can further strengthen consumer trust. Studies have shown that co-branding between NGOs and

firms positively affects consumer perceptions of both the product and the brand. These partnerships can guide customers toward more sustainable consumption choices (Heinl et al., 2010). Engaging with ethical influencers is another effective approach (Aboelenien et al., 2024). These influencers educate their audiences about sustainable consumption habits, thereby promoting ethical products and driving shifts in consumer behavior. Collaborating with influencers who align with the app's values can amplify its reach and credibility.

From an academic view, this research adds to the existing body of work on consumers ethics and the use of technologies by merging the TPB and UTAUT models pertaining to ethical shopping applications. Previous studies have shown that ethical considerations as well as social expectations positively impact ethical purchasing activities, but the current research findings propose that this choosing to adopt ethical technology is far more pragmatic, driven by performance expectancy and price value (as indicated by the regression analysis), rather than purely moral or altruistic motivations. Additionally, barriers such as perceived high cost of ethical products, trust concerns and lack of awareness further shape adoption intentions decisions, highlighting the role of both technological and structural factors in the process.

6.4 Limitation and future studies

Even though this study can be beneficial, there are certain limitations that must be addressed.

This analysis' major weaknesses can be traced back to the use of self-report which can be prone to social desirability bias. Participants are expected to give their best honest opinions, but there is always the possibility that people would like to engage in purchasing actions that are more ethical than they actually do. This is more challenging in ethical consumption research where respondents might intend to engage in ethical consumerism but do not follow through with that intention to purchase in the real world. Social desirability bias was thought to be an important control variable in the analysis. Unfortunately, since the scale did not have sufficient internal consistency ($\alpha = .30$), I omitted it from the final statistical analyze, thus, no estimate could be made for the effect of social desirability on study participants' answers. Therefore, ethical shopping intentions could be over-stated due to the fact that people have the need to enhance their social image. Future studies could use real usage data from ethical shopping applications or behavioral trials to overcome this restriction. Working together with platforms that promote ethical buying may yield objective engagement data that better reflects how customers make

decisions. To better evaluate its possible impact, other approaches to detecting social desirability bias, including implicit association tests (Berry et al., 2015) could be investigated.

The correlation analysis showed that attitudes and PBC had moderate correlations with behavioral intentions, but did not remain significant in the regression model. This suggests that while these factors may influence ethical consumption behavior in general, their impact on ethical shopping app adoption intention is reduced when controlling for technological and demographic factors. Additionally, the correlation matrix indicated a strong relationship between performance expectancy and attitudes (Cohen, 1998), as well as between Price Value and PBC. Although multicollinearity was not detected (all VIF values < 2), these relationships highlight shared variance between behavioral and technological constructs. This suggests that, while distinct in theory, some predictors may capture overlapping aspects of consumer decision-making when it comes to ethical shopping apps. Future research could explore how situational variables—such as government policies, or broader shifts in consumer culture—interact with behavioral and technological factors to influence adoption decisions. Additionally, qualitative research could provide deeper insights into why certain consumers with strong ethical motivations still choose not to use these apps, helping to uncover potential psychological or structural barriers beyond those captured in quantitative models. Expanding the research in these directions would allow for a more holistic understanding of technology-mediated ethical consumption.

The third limitation is related to sample size (N =181) and representativeness. Nevertheless, results of the study could be more meaningful if there was a larger and more diverse sample which could lead the findings generalizability. So, something to be aware of is that the sample at the time of this writing may not fully capture differences across cultures, or varying levels of technological adoption, since, for example, most of the participants were from Portugal (N = 176) and likely concentrated in younger age groups (M = 27.91, SD = 9.76). While the age range spans from 18 to 61, older consumers may be underrepresented, which could influence findings related to technology adoption intentions, as previous research suggests that age affects digital engagement (Morris et al., 2000). Future studies may need to study a more-diverse sample of consumers to see if similar patterns of adoption intentions exist in a larger cohort.

A fourth constraint pertains to the data's cross-sectional character. Since the study only records consumer impressions at one particular moment in time, it is challenging to determine whether adoption intentions evolve as users get more experience and familiar with ethical shopping

apps. Future studies should think about employing longitudinal designs to look at how patterns of technology uptake and ethical consumer behavior change over time.

In addition, the study did not provide a lot of specific information on ethical shopping apps in the questionnaire itself, which might have influenced participants' answers. Since awareness was identified as a hindrance, participants' perceptions of these apps might have been founded on incomplete knowledge or assumptions and not on full exposure to actual app functionalities. Future studies can build on this by providing subjects with longer descriptions, app demos, or live examples before measuring adoption intention. This will enable the distinction between ignorance and genuine indifference in order to utilize these apps.

The unexpected negative effect of enabling conditions raises the question of why external assistance did not encourage adoption intention. Future research can investigate whether consumers consider shopping apps that are ethical to be redundant when other external supports, such as fair-trade labels, ethical product labels, or sustainability guides, are available. Investigating how different types of external support interact with technology adoption decisions would clarify this correlation.

Finally, subsequent research should examine interventions for developing consumer trust in ethical shopping apps. Given the impact of trust concerns, studies can try to test, for example, blockchain-supported transparency tools where researchers found that retailer transparency enabled by blockchain leads to improved quality perceptions and increased retailer trust (Rapezzi et al., 2014).

While this study successfully integrated behavioral and technological adoption theories (TPB and UTAUT), future research can consider further psychological and behavioral factors that can influence adoption intentions. For instance, habit formation, perceived enjoyment, or affective engagement with ethical consumption can provide greater insight into why some consumers adopt ethical shopping apps and others do not.

In addition, this study did not differentiate among the different types of ethical shopping apps. Ethical shopping apps are extremely heterogeneous in their functionality, ranging from price comparison websites for ethical brands to second-hand markets, and sustainability certification platforms. Adoption intention drivers for consumers could be different based on

the functionality of the app, which was not addressed in this study. Also, this apps focus on different ethical aspects (for example, fair-trade or animal cruelty) so maybe the results may be impacted by the fact that a very broad definition of these sort of apps was used. Adoption intention drivers for consumers could be different based on the functionality of the app, which was not addressed in this study. Future research may categorize ethical shopping apps by type to see whether different features have differing effects on adoption behaviors. Or maybe research just one particular ethical shopping app (the most popular one in Portugal, for example).

7. Conclusion

This study tested the determinants of adoption intention of ethical shopping apps using behavior and technology adoption theories. The findings confirm price value and performance expectancy as the strongest predictors of adoption intentions. Although perceived behavioral control initially was important, it was diminished when demographic variables were added.

While a lot of consumers express a willingness to engage in ethical consumption, as indicated by a moderately high behavioral intention to use ethical shopping apps, this intention may not always translate into behavior (Hassan et al., 2016). In fact, only 27.6% of participants reported usually choosing ethical products over conventional ones, while 72.4% stated they did not so. As ethical consumption grows more popular, mastering the art of maximum adoption and usage will remain the overarching challenge for researchers and practitioners within the field of sustainable consumer technology. Future interventions should focus on habit formation, behavioral nudges, and structural incentives that encourage sustained ethical shopping behaviors, ensuring that ethical intentions lead to tangible action.

Although limited market awareness can hinder adoption intentions, it is not the sole barrier since many consumers who know about these apps still choose not to use them. Ultimately, these platforms have the potential to reshape consumer habits, empower individuals to align their purchases with their values, and drive meaningful change in industries that impact the planet and society. For ethical shopping apps to fulfill their purpose, consumers need to truly understand how their choices make a difference—not just in their own lifestyles but in the broader effort toward sustainability, fair labor, and ethical business practices. These applications serve as a bridge between intention and action, offering an accessible and

convenient way to turn ethical concerns into tangible decisions. By making responsible consumption easier and more transparent, they can help redefine the marketplace, ensuring that ethical business practices become the norm rather than the exception. Marketing campaigns, partnerships with sustainability thought leaders, and embeddings with mass market shopping channels could significantly enhance adoption rates. Without exposure to ethical shopping tools, purchasing habits might remain unchanged, highlighting the need to improve accessibility and visibility of these platforms.

Practically, these findings highlight the necessity that developers and ethical brands prioritize credibility and financial rewards. In the absence of robust trust mechanisms and observable financial rewards, even consumers with ethical intentions may refrain from embracing such platforms.

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Appendices

Appendix 1- Survey

Introduction

Welcome, and thank you for participating in this study on ethical shopping behavior! I, Mariana Frazão Monteiro, am conducting this study as part of my Master's Thesis at Católica Lisbon School of Business and Economics, under the supervision of Cristina Mendonça. This research focuses on understanding consumer attitudes and behavioral intentions toward adopting and using ethical shopping apps. The survey takes 5-10 minutes to complete. All responses are anonymous, and the data will only be used for research purposes, presented in aggregated form in my thesis or academic publications. Please complete the survey in one sitting for accurate results. You can withdraw at any time without consequences. For questions, contact me at s-mafrmonteiro@ucp.pt. By proceeding, you agree to participate. Thank you for your valuable contribution!

Ethical products are goods or services that are produced, traded, and consumed in a way that minimizes harm to people, animals, and the environment, and adheres to principles of fairness, sustainability, and social responsibility.

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q1 "I believe buying ethical products is the right thing to do."

- o Strongly Disagree
- o Disagree
- o Somewhat disagree
- o Neither agree nor disagree
- o Somewhat agree
- o Agree
- o Strongly agree

Q2 "Purchasing ethical products aligns with my values and principles."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q3 "I feel positively about choosing ethical products over conventional ones."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q4 "I feel confident in my ability to identify ethical products."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q5 "I can easily find ethical products when shopping."

- Strongly Disagree
- Disagree

- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q6 "There are no significant barriers preventing me from buying ethical products."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate whether you agree or disagree with the following statement by selecting an option:

Q7 Do you usually choose to buy ethical products over conventional ones?

- Yes
- No

Ethical Shopping Apps

We would now like to know your thoughts on ethical shopping apps.

These are apps that enable users to make informed and responsible purchasing decisions by offering insights into environmental impact, labor conditions, and animal welfare standards. Many ethical shopping apps also include features that allow users to **purchase products directly** through the platform, while **others focus on providing guidance and ratings** to inform offline or online shopping.

Examples of ethical shopping apps include:

Good On You: Rates fashion brands based on their environmental, labor, and animal welfare impact, providing **scores** to help users align purchases with their values

Boycott: Focuses on providing **information** to avoid companies with unethical practices, such as poor labor conditions or environmental harm

DoneGood: A **marketplace** connecting users to ethical and sustainable brands, emphasizing fair trade, eco-friendly practices, and locally made goods, with in-app shopping options

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Q8 Have you used an ethical shopping app?

- Yes
- No

Q9 Do you know some of these applications? (Select all that apply)

- Good on You
- Shop Ethical!
- Boycott
- DoneGood
- No
- Other(s) apps you have knowledge of (please specify)

If Q8 is selected - No:

Q10 What could motivate you to use ethical shopping apps? (Select all that apply)

- Finding environmentally friendly products
- Supporting fair labor practices
- Avoiding animal cruelty products
- Being part of a socially responsible community
- Convenience
- Other (please specify)

Q11 Which of the following best describes why you haven't used an ethical shopping app? (Select all that apply)

- Skeptical of app credibility
- Ethical products are expensive
- Don't trust app information
- Feel the app wouldn't impact my purchasing decisions
- Lack of interest in ethical products
- Didn't know these apps existed
- Ethical products are more expensive than conventional options
- Other (please specify)

If Q8 is selected – Yes:

Q10 What motivates you to use ethical shopping apps? (Select all that apply)

- Finding environmentally friendly products
- Supporting fair labor practices
- Avoiding animal cruelty products
- Being part of a socially responsible community
- Convenience

- Other (please specify)

Q11 Which of the following best describes the challenges you experience when using ethical shopping apps? (Select all that apply)

- Skeptical of app credibility
- Ethical products are expensive
- Don’t fully trust the app’s information
- Feel the app doesn’t significantly impact my purchasing decisions
- Difficulty finding products that align with my ethical priorities
- Other (please specify)

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q12 "I believe using an ethical shopping app will help me make more informed purchasing decisions."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q13 "Using an ethical shopping app will enhance my ability to shop in alignment with my ethical values."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree

- Strongly agree

Q14 "I find ethical shopping apps useful for making sustainable and responsible shopping decisions."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q15 "I believe an ethical shopping app would be easy to use."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q16 "Learning how to use an ethical shopping app would require little effort."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree

- Strongly agree

Q17 "I think I can quickly become proficient in using an ethical shopping app."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q18 "People who are important to me think that I should use an ethical shopping app."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q19 "If people I know used ethical shopping apps, I would be more likely to try one."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q20 "I would feel motivated to use an ethical shopping app if it were widely recommended."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q21 "I have access to the resources (e.g., smartphone, internet) necessary to use an ethical shopping app."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q22 "I have the knowledge required to use an ethical shopping app effectively."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q23 "Support is available to help me if I encounter difficulties using an ethical shopping app."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q24 "The benefits of using an ethical shopping app outweigh the costs associated with it (e.g., subscriptions)."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q25 "I find that ethical shopping apps offer good value for money."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q26 "Using an ethical shopping app would be worth any costs involved."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q27 "I intend to use an ethical shopping app in the near future."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q28 "I plan to regularly use an ethical shopping app to shop responsibly."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q29 "I am likely to recommend ethical shopping apps to others."

- Strongly Disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree
- Strongly agree

Q30 Do you have any additional thoughts or suggestions on how ethical shopping apps could encourage more ethical shopping? Open answer

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Demographic Informations

Please answer a few brief questions about yourself to assist with the analysis:

Q31 Age (insert numbers only)

Q32 Gender

- Male
- Female
- Non-binary/third gender
- Prefer not to say

Q33 Highest level of education achieved

- Basic Education (1st to 9th grade)
- Secondary Education (10th to 12th grade)
- Bachelor's degree
- Master's degree
- PhD

Q34 Nationality (Open answer)

Q35 Compared with other people in our country, would you say your income is:

- 1-Far below average
- 2-Below average
- 3-Average

- 4-Above average
- 5-Far above average

Please indicate whether you agree or disagree with the following statement by selecting an option:

Q36 "I have never used a computer or smartphone."

- Agree
- Disagree

Please indicate the extent to which you agree or disagree with each statement by selecting an option on the scale provided:

Q37 "I never take things that don’t belong to me, even if they are very small."

- Strongly Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q38 “I always practice what I preach”

- Strongly Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Q39 “I sometimes tell lies if I have to."

- Strongly Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree

- Strongly agree

Q40 "I never feel resentful, even when things don’t go my way."

- Strongly Disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

Thank you for your time spent taking this survey. Your response has been recorded.

Appendix 2- Scale Reliability

Reliability statistics of the independent and dependent variables

Variables	α	Cronbach's Alpha Based on Standardized Items	N of Items
ATT	.95	.95	3
PBC	.64	.65	3
PE	.87	.88	3
EF	.72	.72	3
SI	.73	.73	2
FC	.71	.71	3
PV	.86	.87	3
BI	.94	.94	3
Social Desirability Scale	0.30	0.33	4

Note: ATT = Attitudes towards ethical consumerism, PBC = Perceived Behavioral Control towards ethical consumerism, PE = Performance Expectancy, EF = Effort Expectancy, SI = Social Influence, FC = Facilitating Conditions, PV = Price Value, BI = Behavioral Intention to use ethical shopping apps

Appendix 3 – Covariates Descriptives

Descriptive statistics for Age

	N	Minimum	Maximum	Mean	Std. Deviation
Age	181	18	61	27.91	9.76
Valid N (listwise)	181				

Frequency table for Education

		N	%
Valid	Bachelor's degree	117	64.6
	Master's degree	53	29.3
	PhD	1	.6
	Secondary Education (10th to 12th grade)	10	5.5
	Total	181	100.0

Frequency table for Gender

		N	%
Valid	Female	94	51.9
	Male	87	48.1
	Total	181	100.0

Frequency table for Nationality

		N	%
Valid	German	3	1.7
	Greek	1	.6
	Palestinia	1	.6
	Portuguese	176	97.2
	Total	181	100.0

Frequency table for ethical products purchasing behavior

		N	%
Valid	No	131	72.4
	Yes	50	27.6
	Total	181	100.0

Frequency table for use of ethical shopping apps

		N	%
Valid	No	170	93.9

	Yes	11	6.1
	Total	181	100.0

Appendix 4- Dependent and independent variables descriptives

Descriptive statistics for dependent and independent variables

	N	*M*	*SD*
ATT	181	5.36	1.60
PBC	181	3.66	1.14
PE	181	5.38	.97
EF	181	4.94	1.10
SI	181	5.47	1.07
FC	181	5.70	.99
PV	181	4.22	1.26
BI	181	4.63	1.44
Valid N (listwise)	181		

Note: ATT = Attitudes towards ethical consumerism, PBC = Perceived Behavioral Control towards ethical consumerism, PE = Performance Expectancy, EF = Effort Expectancy, SI = Social Influence, FC = Facilitating Conditions, PV = Price Value, BI = Behavioral Intention to use ethical shopping apps

Appendix 5 – Models Summary

Model 1 and 2 summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	*F* Change	*df1*	*df2*	Sig. *F* Change
1	.71[a]	.51	.49	1.03	.51	25.59	7	173	<.001
2	.75[b]	.56	.53	.99	.05	2.95	7	166	.006

a: Predictors: (Constant), ATT, PBC, PE, EF, SI, FC, PV

b: Predictors (Constant), ATT, PBC, PE, EF, SI, FC, PV, UEA, BEP, Age, PORT, MALE, INCO, EDUC

Note: ATT = Attitudes towards ethical consumerism, PBC = Perceived Behavioral Control

towards ethical consumerism, PE = Performance Expectancy, EF = Effort Expectancy, SI = Social Influence, FC = Facilitating Conditions, PV = Price Value, BI = Behavioral Intention to use ethical shopping apps, UEA = Used ethical shopping apps (participants who had previously used ethical shopping apps, BEP = Buy Ethical Products (consumers who regularly buy ethical products), Age = Age of the participants, PORT = Participants with Portuguese Nationality, MALE = Male participants, INCO = Income, EDUC = Highest education level of the participants

Appendix 6 – Hypothesis testing and Collinearity

Hypothesis testing: coefficients informations

		Unstandardized Coefficients					95,0% Confidence Interval for B		
		B	Std. Error	*b*	*t*	Sig.	Lower Bound	Upper bound	VIF
1	(Constant)	-.030	.621		-.048	.961	-1.256	1.196	
	ATT	-.063	.061	-.070	-1.028	.306	-.183	.058	1.618
	PBC	.233	.085	.184	2.733	.007	.065	.401	1.595
	PE	.670	.109	.449	6.165	<.001	.456	.885	1.868
	EF	.063	.094	.048	.669	.504	-.122	.248	1.796
	SI	.041	.083	.031	.498	.619	-.122	.204	1.322
	FC	-.277	.098	-.191	-2.840	.005	-.470	-.085	1.598
	PV	.375	.076	.328	4.910	<.001	.224	.525	1.567
2	(Constant)	-.758	.794		-.955	.341	-2.325	.809	
	ATT	-.052	.061	-.058	-.849	.397	-.173	.069	1.756
	PBC	.140	.087	.111	1.608	.110	-.032	.312	1.799
	PE	.624	.107	.418	5.846	<.001	.413	.834	1.941
	EF	.036	.092	.028	.395	.693	-.146	.219	1.876
	SI	.074	.081	.055	.914	.362	-.086	.234	1.373
	FC	-.314	.097	-.217	-3.234	.001	-.506	-.122	1.707
	PV	.381	.075	.333	5.085	<.001	.233	.529	1.631
	BEP	.191	.191	.060	1.004	.317	-.185	.568	1.339
	UEA	.334	.336	.056	.994	.321	-.329	.997	1.185
	MALE	-.147	.157	-.051	-.935	.351	-.456	.163	1.128
	PORT	-.113	.474	-.013	-.238	.812	-1.048	.822	1.108
	INCO	.060	.111	.032	.543	.588	-.159	.280	1.332
	EDUC	.500	.141	.193	3.539	<.001	.221	.779	1.134
	Age	.007	.008	.048	.867	.387	-.009	.023	1.185