ABSTRACT

Shopping for a Cause: Exploring the Role of Information Systems in Ethical
Consumption

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There is a growing awareness and concern from consumers about the negative

impacts of their consumption decisions on the environment, public health, and the global

economy. Consequently, consumers are beginning to seek assurance that the products they

consume are environmentally and socially conscious. One way consumers can address

these concerns is by purchasing ethically sourced products, an activity referred to as ethical

consumption. For consumers to take responsibility for the environmental impact of their

consumer choices, they must be provided information on the ethical attributes of the

products they purchase. Ethical consumption apps (ECAs) provide consumers with this

information. ECAs provide real-time information to the consumer on the ethical attributes

of products. These mobile apps allow the user to scan products of interest and receive

information on the provenance, environmental effects, safety, and social impacts of

products at the time of purchase. While ECAs have the potential to encourage ethical

consumption, research investigating these applications, their functionality, and use remains

limited. The goal of this research is to fill this gap by investigating the following research

questions: *(1)* how do consumers use information provisioned through ethical consumption apps? and (2) what is the impact of ECA use on purchasing behavior? To investigate these research questions, I conduct a qualitative study using a grounded theory approach. Based on the findings of data collected from ECA users and producers, I propose a Model of IT Enabled Behavior Change. This model illuminates the role of information systems in ethical consumption. Moreover, these findings are applicable to understanding how individuals utilize information systems to support voluntary behavior change. These findings have implications for theory, practice, and society.

Shopping for a Cause: Exploring the Role of Information Systems in Ethical Consumption

by

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A Dissertation

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DEDICATION

To all the individuals and organizations striving to make this world a better place, this dissertation is dedicated to you.

CHAPTER ONE

Introduction

There is a growing awareness and concern from consumers about the negative impacts of their consumption on the environment, public health, and the global economy (Carrington, Neville, & Whitwell, 2014; Hayward, McLean, & Jhanji, 2014; Senge, Smith, Schley, Laur, & Kruschwitz, 2008; White, MacDonnell, & Ellard, 2012). Consequently, consumers are beginning to seek assurance that the products they purchase are safe and produced in a way that is environmentally and socially conscious (Barnett, Cloke, Clarke, & Malpass, 2005; Clarke, Barnett, Cloke, & Malpass, 2007; Harrison, Newholm, & Shaw, 2005; Watts & Wyner, 2011). One way consumers can reduce the impact of their consumption and promote sustainable production is by purchasing ethically sourced products, an activity referred to as *ethical consumption* (Harrison et al. 2005). According to a United Nations report, ethical consumption is crucial to support the growing world population and to reduce poverty (10YFP Inter-Agency Coordination Group, 2014).

Ethical consumers make purchasing decisions based on a wide variety of issues including human and animal welfare, environmental sustainability, Fair Trade, and the health and safety of products (Carrigan et al. 2004). Whereas the traditional consumer is motivated to purchase products based primarily on price and quality, the ethical consumer considers a product's ethical attributes, such as environmental impact, in addition to price and quality. By engaging in ethical consumption, consumers reward companies with ethical practices in line with their personal values and punish companies whose practices are not socially responsible. For example, consumers may purchase Fair Trade, organic, or eco-

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friendly products, or invest in ethically screened mutual funds (Papaoikonomou et al. 2012). Ethical consumption can take many forms; however, the central concept remains the same - what ethical consumers choose to purchase is influenced by the ethical nature or context of the product (Carrier and Luetchford 2012).

Government and business leaders continue to stress the vital role of consumers in environmental, social, and economic sustainability (Hanss and Böhm 2013; White and Simpson 2013). For example, CEOs report that consumer preferences for ethical products significantly affect their business sustainability practices (Accenture 2014). Without consumer demand for ethical products, businesses have little incentive to change their production practices or current product offerings to be more sustainable. Reports indicate that a rising number of consumers are taking responsibility for sustainable consumption, as is evidenced by the growing ethical product market. In the United Kingdom, for instance, ethical product sales increased by 12% in 2013 while the economy only grew by .2% (Ethical Consumer Research Association 2013). The same report indicates that the ethical product market is worth €54 billion in the UK alone. In a more recent study, 55% of the 30,000 consumers surveyed by Nielson claim that they will pay more for socially and environmentally responsible products (Nielsen 2014).

Despite the growing demand for and interest in socially conscious products, consumers still lack information about the ethical attributes of goods they purchase. Without information about the social and environmental attributes of products, consumers cannot evaluate the consequences of their consumption choices and therefore cannot consume responsibly. Many consumers rely on product labels to provide them with the information they need to evaluate a product's ethical attributes; however, print labels are

limited in the amount, variety, and complexity of information they can communicate (van Amstel et al. 2008). For example, if a consumer goes to a sporting goods store to purchase a Patagonia brand jacket, she/he would find a label that indicates the fabric was made from organic cotton, eco-friendly products and traceable down. Although these labels are informative, they do not communicate the full scope of ethical attributes associated with the product. What the product label does not convey is that the down in the jacket is traceable to ensure that it comes from birds that were not live-plucked or force-fed (Patagonia, Inc., 2014). Additionally, she/he would be informed that the organic cotton is grown without any harmful chemicals; a process which uses less water, supports biodiversity and improves the quality of the soil. Patagonia also uses recycled material, such as plastic water bottles and wool, to make its clothing. This example demonstrates how information about production processes is far more rich and complex than what can be effectively communicated through traditional labels. Given the lack of product information on a label, ethical consumers must search elsewhere for ethical attribute information. Many consumers have turned to information systems (IS) to provide them with ethical information on products, specifically in the form of ethical consumption apps.

Ethical Consumption and Information Systems

Ethical consumption apps (hereinafter known as ECAs) are mobile tools which provide consumers with a product's ethical attribute information for the purpose of informing purchasing decisions. ECAs, when downloaded to a consumer's mobile device, allow users to scan products of interest and receive information on the provenance, environmental effects, safety, and social impacts of products at the time of purchase. The idea behind ECAs is to enable consumers to make purchasing decisions that reflect their

ethical beliefs. One such ECA is GoodGuide, which has over 75,000 products in its database that are rated for their health, environmental and societal impact. In the last five years there has been a steady increase in the number of mobile apps available for facilitating ethical consumption, with some estimating as many as 40 ECAs on the market (Watts & Wyner, 2011). Furthermore, various ECA websites boast that downloads of their apps are in the millions (Buycott, 2017; Monterey Bay Aquarium, 2017).

While ECAs have the potential to facilitate ethical consumption, research investigating these applications, their functionality, and use remains limited. One related stream of research which focuses on the role of IS in facilitating, supporting, and achieving environmental sustainability is Green IS (Elliot 2011; Malhotra et al. 2013; Melville 2010; Pernici et al. 2012; Watson et al. 2010). ECAs act as Green IS in that consumers adopt ECAs to help them identify and purchase environmentally friendly products. Additionally, ECAs move beyond the role of Green IS, which are focused solely on environmentally sustainability, by informing consumers of socially conscious aspects of products such as animal welfare and labor practices.

The majority of Green IS research investigates how organizations can utilize IS to inform and encourage environmentally sustainable business practices (Corbett, 2013; Seidel, Recker, & Vom Brocke, 2013; X. Wang, Brooks, & Sarker, 2015; Watson, Boudreau, & Chen, 2010). However, to get a full understanding of the role of IS in contributing to environmental and social sustainability, research is needed that addresses all levels of analysis, including the individual level (S. Elliot, 2011; Loock, 2013; Malhotra, Melville, & Watson, 2013; Melville, 2010; Watson et al., 2010). Very little research explores the use and impact of Green IS on individuals and those that do are primarily

focused on individual energy conservation (Karlin, Zinger, & Ford, 2015; Loock, 2013). To that end, this research investigates the role of IS in facilitating individuals' endeavors to consume ethical products.

Like many information systems, ECAs are predicated on the idea that providing ethical attribute information to consumers will enable them to consume ethically. However, the provision of information alone does not guarantee that individuals will behave differently than if they did not have information provisioned through the information system (Ackoff, 1968; Vandenbosch & Huff, 1997). Thus, it is important to understand how consumers use ECAs and the subsequent behavior by the user. Information systems research investigating the role of information on consumer behavior has increased our understanding of how consumers respond and use IS in purchasing decisions (Clemons, 2008; Li, Kauffman, Heck, Vervest, & Dellaert, 2014). Nevertheless, this research is focused on the provision of price and quality information and does not assess the impact of ethical attribute information on consumers. Additionally, this research has two assumptions that are not applicable in the case of ethical consumption. One assumption is that consumers act in their own self-interests and purchase the product at the lowest price given the product quality. Yet, ethical consumers often pay a premium for products that are ethically sourced, thereby acting in the interest of the well-being of others (Freestone & McGoldrick, 2008; Osterhus, 1997). The second assumption, especially with regard to consumer informedness literature, is that consumers have all relevant information about a product before making a purchasing decision; however, ethical attribute information is not readily available to consumers. As such, research is needed that integrates the findings from information systems and consumer behavior with ethical consumption.

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Prior research on ECAs has investigated information adoption (Watts & Wyner, 2011), but still missing is an understanding of the impact of information adoption on behavior. Furthermore, ethical consumption research has primarily investigated individuals' intention to purchase a sustainable product at the point of sale with little regard for how information is consumed or utilized prior to making purchasing decisions. The goal of this dissertation is to fill these research gaps by answering the following research questions:

(1) How do consumers use information provisioned through ECAs?

(2) What is the impact of ECA use on purchasing behavior?

I investigate these research questions by conducting a qualitative study using a grounded theory approach (Glaser & Strauss, 1967). With findings from this dissertation, I develop a Model of IT Enabled Behavior Change which illuminates the role of information systems in facilitating ethical consumption. This process model identifies four stages of IS behavior change and the role of psychological dissonance and consumer empowerment in each of these stages. These findings have implications for both IS and ethical consumption research. Moreover, the results of this study have implications for ECA developers, product producers, policy makers, and consumers.

In studying the role of information systems in ethical consumption, this dissertation responds to several calls for IS research. The first are calls for Green IS research to enhance our understanding of the impact of Green IS on individuals' eco-friendly behavior (Malhotra et al., 2013; Melville, 2010; Watson et al., 2010). Moreover, this research responds to appeals for studies investigating individual information systems and their effect on users and society (Baskerville, 2011). By studying how consumers utilize ECAs, this

research sheds light on how a complex individual IS (i.e. ECAs) affect individual users. Additionally, this study answers calls for research on ethical consumption tools (Watts & Wyner, 2011) Finally, this dissertation answers the call for research on the role of IS in addressing societal challenges, including climate change (Gholami, Watson, Molla, Hasan, & Bjørn-Andersen, 2016; J. K. Lee, 2015; Majchrzak, Markus, & Wareham, 2016), by studying how individuals use technology to consume ethically, a practice said to advance sustainable development and preserve resources for future generations (10YFP Inter-Agency Coordination Group, 2014).

Organization of Chapters

This dissertation is organized as follows. In Chapter Two I present a literature review of research streams that are relevant to the current study. Additionally, this chapter contains a section on the information technology artifact of interest in my dissertation, which is ECAs. Next, in Chapter Three, I present the method used for this study including data collection procedures, data sources, and methodology. The results are then presented in Chapter Four in which I propose and discuss a Model of IT Enabled Behavior Change. Finally, I conclude with Chapter Five by discussing the results and provide implications for theory, practitioners, and society. Furthermore, I present limitations of the study and suggest future research opportunities.

CHAPTER TWO

Literature Review

In this chapter I review and discuss several streams of literature relevant to this study. My dissertation research is situated at the intersection of three research streams: ethical consumption, Green IS, and consumer informedness. The intersection and overlap of these research streams are shown in Figure 2.1. Ethical consumption research is important because it is the phenomenon of interest in this study. Both Green IS and consumer informedness literatures are germane to this study because they provide a foundation of information systems research that informs ethical consumption apps. Taken together these three streams of research encompass pro-social behavior, consumer behavior, and information systems user behavior, all of which contribute to the understanding of ethical consumption apps and their impact on behavior.
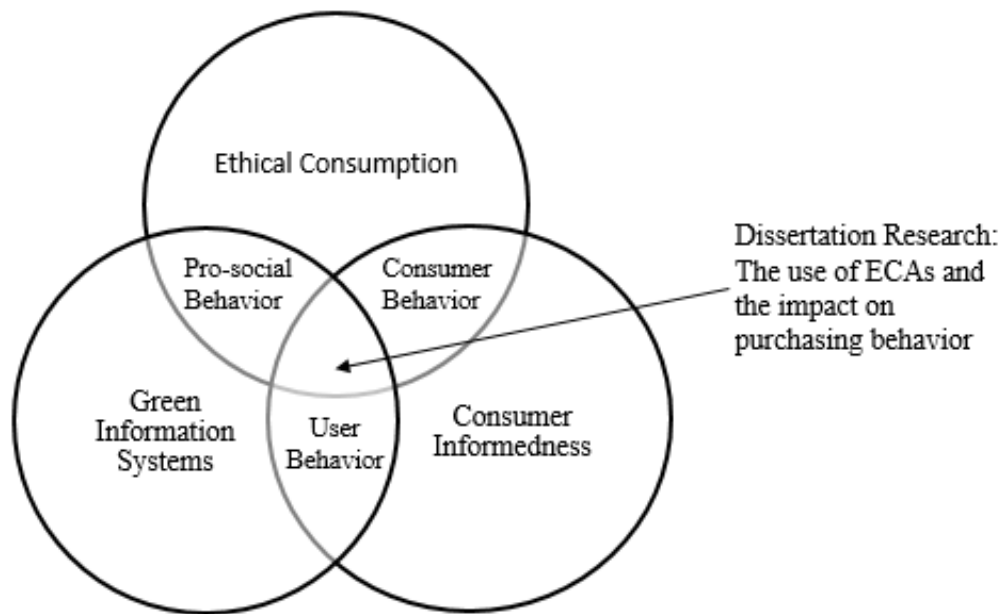

Figure 2.1. Background Literature and Dissertation Research

This chapter is organized as follows. First, I provide background on ethical consumption and review literature addressing the ethical purchasing gap. Next, I discuss IS research related to ethical consumption and consumer behavior. Thereafter, I provide an overview of the Transtheoretical Model of Behavior Change, a theory which frames the findings of this study. Finally, I present a section to introduce the information technology artifact under investigation in this study, ethical consumption apps. In summary, the information presented in this chapter provides a background on the phenomenon of ethical consumption, related IS literature, theoretical framing, and a detailed description of ethical consumption apps.

Ethical Consumption

Introduction to Ethical Consumption

Ethical consumption is a way for consumers to match their values with the values inherent in the objects they purchase (Barnett et al., 2005). Consumers have a myriad of ethical concerns, including environmental sustainability, animal welfare, product safety, employee welfare, and labor conditions (Barnett et al., 2005; Crane, 2001; Harrison et al., 2005). Ethical consumption goes by many names including buycotting, socially conscious consumption, consumer citizenship, ethical purchasing, and political consumerism. There are two ways consumers engage in ethical consumption. The first is *boycotting,* which entails abstaining from consuming a product or service that one perceives to violate their ethical principles. For instance, consumers may boycott a company for conducting animal testing or elect to use public transportation in lieu of driving a car so as to reduce their carbon footprint. The second form of ethical consumption is *buycotting,* whereby

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consumers purchase products that support their personal ethical values. Consumers who purchase Fair Trade, organic, or eco-friendly products, or invest in ethically screened mutual funds are engaged in buycotting (Papaoikonomou, Valverde, & Ryan, 2012).

Ethical consumption has been conceptualized as a form of voting or political participation. In a 2006 study, Shaw et al. conducted in-depth interviews with ethical consumers and found that they use consumption as a way to exercise their citizenship (Shaw, Newholm, & Dickinson, 2006). The participants indicated that they felt like their values were not represented in government policies, so they used ethical consumption as a way of voting or signaling their demand for ethical products. It is estimated that 22-48% of Americans and Europeans engage in ethical consumption, a percentage higher than those who participate in other common forms of political participation such as attending political rallies, donating to political campaigns, or communicating with public officials (Zúñiga, Copeland, & Bimber, 2014). Therefore, ethical consumption is a way for consumers to voice their political concerns in the marketplace.

Although ethical consumption is not a new phenomenon, it has now become mainstream in our consumer culture (Bray, Johns, & Kilburn, 2011; Carrington, Neville, & Whitwell, 2010; Carrington et al., 2010; Shaw et al., 2006). There has been a significant increase in the past decade in the purchasing of ethically sourced products and companies have responded by offering a variety of socially conscious products (Ethical Consumer Research Association, 2013; Fair Trade USA, 2015; Nielsen, 2014). As the ethical product market has grown, so too has the number of companies engaging in pro-social or cause marketing campaigns in which companies endeavor to communicate their commitment to social values and outcomes (Westberg & Pope, 2014). For example, Whole Foods recently

launched its "values matter" campaign which highlights the quality of its products based on values such as environmental and social sustainability (Elliott, 2014b). Other companies promoting social, environmental, or ethical values include: Starbucks, Panera Bread, Dove, Google, and GE, just to name a few (Elliott, 2013; Lii & Lee, 2011). In 2014, Young and Rubicam Group, a division of the world's largest agency holding group, started an advertising practice designated solely to cause-related marketing campaigns (Elliott, 2014a). These reports demonstrate a shift in the marketing strategies of companies seeking to tap the ethical product market.

Ethical Consumption Research

Ethical consumption research draws from a variety of fields including sociology, environmental psychology, political science, and marketing. Each of these fields bring a unique point of view and insight to ethical consumption by exploring the meaning of ethical consumption and the motivation and behaviors of ethical consumers (Barnett et al., 2005; Clarke et al., 2007; Harrison et al., 2005). Table 2.1 summarizes the areas of ethical consumption research. Sociology literature investigates consumer culture, consumer identity, and the impact of ethical consumption on social structures and society in general (Adams & Raisborough, 2008, 2010; Beagan, Ristovski-Slijepcevic, & Chapman, 2010; Hier, 2003). Environmental Psychology literature focuses on exploring environmental self-identity, green or eco-friendly behaviors, and ways to motivate environmentally friendly choices (Hedlund-de Witt, de Boer, & Boersema, 2014; Price, Walker, & Boschetti, 2014; Steg, Bolderdijk, Keizer, & Perlaviciute, 2014; Whitmarsh & O'Neill, 2010). Ethical consumption is also studied in the area of political science. These studies focus on the

political attitudes and beliefs of ethical consumers (Ekman & Amnå, 2012; Friedland et al., 2007; Kidwell, Farmer, & Hardesty, 2013; Quintelier & van Deth, 2014).

Table 2.1.

Areas of ethical consumption research.

Academic Area	Focus of Ethical Consumption Research	Sample Studies
Sociology	Consumer identity; Consumer culture; Social impact of ethical consumption	(Adams & Raisborough, 2008, 2010) (Beagan, Ristovski-Slijepcevic, & Chapman, 2010) (Hier, 2003)
Environmental Psychology	Environmental self-identity; Motivating green behavior; Environmental values and beliefs	(Hedlund-de Witt et al., 2014; Price et al., 2014; Steg et al., 2014; Whitmarsh & O'Neill, 2010)
Political Science	Ethical consumer motivations and political values; Ethical consumption as voting	(Bennett, 2012; Friedland et al., 2007; Holt, 2012; Shah et al., 2007)
Marketing	Marketing appeals; Consumer behavior; Ethical consumer market segmentation; Ethical Purchasing Gap	(Carrington et al., 2010; Kronrod, Grinstein, & Wathieu, 2012; Peloza, White, & Jingzhi Shang, 2013; White & Simpson, 2013)

Another area of ethical consumption research, and the most salient to the current study, is marketing research. This stream of research investigates ethical consumer behavior and ways marketing appeals encourage consumers to consume ethically (Cronin, Smith, Gleim, Ramirez, & Martinez, 2010; Kronrod et al., 2012; Peloza et al., 2013; van Vugt, Griskevicius, & Schultz, 2014; White et al., 2012; White & Simpson, 2013). Additionally, marketing research has focused on identifying green and socially conscious

consumers in order to segment the ethical consumer market (Anderson Jr. & Cunningham, 1972; Haws, Winterich, & Naylor, 2014; Webster Jr., 1975).

A subset that this marketing research seeks to understand a phenomenon known as the "ethical purchasing gap" (Bray et al., 2011; Carrington et al., 2010, 2014). The ethical purchasing gap, or intention-behavior gap, is the discrepancy between consumers' intention to purchase ethical products and actual purchasing behavior. Given that ECAs are expected to help users consume ethically, it is vital that there is a clear understanding of problems that consumers face in achieving this goal (Majchrzak et al., 2016). Consequently, I provide an overview of ethical purchasing gap research with the goal of identifying obstacles to ethical consumption and later discuss the role of IS in addressing those obstacles.

Ethical Purchasing Gap Research

Ethical purchasing gap literature identifies barriers to ethical consumption and focuses on ways to encourage consumers to buy ethically sourced products. Consumers face significant obstacles to translating their ethical beliefs into action (Osterhus, 1997). Individuals may struggle with identifying ethical products and companies (Carrigan & Attalla, 2001; Hawthorne, 2012), paying ethical product premiums (De Pelsmacker & Janssens, 2007), or deciding which ethical product will be most effective (Carrington et al., 2014). Consequently, consumers who intend to consume ethically fail to realize their stated goals when they go shopping. In this section, I review literature investigating the ethical purchasing gap. The section is organized by the barriers identified in literature that are said to contribute to the ethical purchasing gap. Those barriers are awareness, response efficacy, personal responsibility, decision difficulty, perceived quality, ethical product

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premiums, and search costs. It is important to understand the barriers individuals face when endeavoring to consume ethically so the role of IS in facilitating this process might become clear.

Awareness. Studies indicate that consumers are still largely unaware about the need for sustainable consumption and production (Bray et al., 2011; Carrigan & Attalla, 2001). However, getting consumers to take notice of the magnitude and severity of environmental problems is a difficult task since people tend to ignore problems that they cannot see, hear, or touch and that do not have immediate personal impact (Ader, 1995; Barnett et al., 2005; Carrigan & Attalla, 2001; van Vugt et al., 2014). For example, consumers cannot perceive the effects of soil degradation, carbon emissions, water usage, or poor working conditions across the world. While consumers are concerned with the environment and Fair Trade, these issues are distant problems that become secondary to more immediate consumer concerns, such as price and product quality (Gupta & Sen, 2013). Similarly, consumers do not always associate their ethical beliefs with products. Take consumers who feel passionately about protecting the environment and votes for candidates who support legislation to advance their beliefs. These same consumers however may be unaware that the products they purchase are produced by a company that supports groups lobbying against environmental protection legislation, such as carbon tax. As a result, consumers need to be educated about environmental and social issues, which are not easily observed, so they can act accordingly.

Response efficacy. Another issue for consumers considering ethical consumption is that it is difficult to determine the impact or efficacy of purchasing ethically sourced

product. The ability of a response to achieve the intended outcome is known as response efficacy (Rogers, 1975). Studies indicate that consumers remain skeptical that their actions as consumers will make a difference in the state of the environment, animal welfare, or the exploitation of workers (Adams & Raisborough, 2010; Auger & Devinney, 2007; Bray et al., 2011; Carrigan & Attalla, 2001; Carrington et al., 2010; D'astous & Legendre, 2009; De Pelsmacker & Janssens, 2007). During a series of focus groups and interviews, consumers reported being inundated with information about environmental and social problems but lacked information on how their response could change the problems (Bray et al., 2011). When consumers feel helpless in changing an outcome, they will avoid the decision altogether or assign the responsibility to another party (Chatzidakis, Hibbert, & Smith, 2007; White et al., 2012).

Given the enormity of environmental and social problems, like climate change, consumers often perceive their acts of ethical consumption to be insignificant (Carrington et al., 2010, 2014; Harrison et al., 2005). Sustainable production and consumption will not be realized without the combined efforts of consumers (Hanss & Böhm, 2013). Yet, a majority of appeals for ethical consumption emphasize individual action. Moreover, the act of purchasing an ethical product is an individual behavior that is separated from other people, or companies, who are also engaged in ethical consumption. Emphasizing collective action and response has proven more effective in encouraging sustainable consumption than focusing on individual action (Papaoikonomou et al., 2012). One explanation for this is that when addressing significant problems, individuals believe they are more effective if they are part of group that is working together to solve a problem (Frantz & Mayer, 2009; van Zomeren, Spears, & Leach, 2010).

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In a more recent study, White et al. (2012) found that consumers were more likely to purchase Fair Trade products when they were told how injustice could be alleviated through ethical consumption. Conversely, when participants were given information about social problems, but not informed about ways they could act to restore justice, they were less likely to support Fair Trade products. Even if consumers want to purchase ethically, they will not do so if they feel their efforts will not make a difference. As such, communicating to consumers that their purchasing decisions can affect the environment, and other people, is critical to engage individuals in ethical consumption.

Personal responsibility. Ethical consumption research also suggests that many consumers feel that the government and corporations bear the responsibility of sustainable production (Chatzidakis et al., 2007; D'astous & Legendre, 2009; Eckhardt, Belk, & Devinney, 2010). Consumers often deny their responsibility by arguing that they cannot consume ethically because retailers do not offer ethical products (Chatzidakis et al., 2007) nor does the government prevent businesses from selling unethical products (Bray et al., 2011; Carrigan & Attalla, 2001). Still, some consumers assert that they are not the cause of environmental problems, such as global warming, and therefore do not bear any responsibility in fixing the problem (Barnett et al., 2005). Consumers are not likely to make the sacrifice or effort to engage in ethical consumption unless they feel a sense of personal responsibility.

Decision difficulty. Consumers also struggle with the decision difficulty when trying to make ethical purchases. Purchasing ethically is a deliberate action on the part of the consumer (Adams & Raisborough, 2010) which requires individuals to actively engage

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in a decision-making process. Choosing an ethical product can be difficult and tedious for consumers on account of the complexity and consequences of the decision (Ehrich & Irwin, 2005; Hassan, Shaw, Shiu, Walsh, & Parry, 2013). Ethical consumption choices complicate purchasing decisions by adding more attributes for the consumer to consider (Hassan et al. 2013). In addition, consumers are confused by conflicting information about the nature and effectiveness of sustainable consumption (Carrier & Luetchford 2012). Consequently, consumers experience preference uncertainty and decision difficulty at the time of purchase (Ehrich & Irwin 2005).

One way consumers deal with this issue is by prioritizing ethical product attributes by importance. Carrington et al. (2014) found that consumers who were successful in consuming ethically made purchases based on a set of principal ethical concerns that they had already established before shopping. By identifying their primary ethical concerns, the informants reduced the number of attributes to consider for each a product; thereby simplifying their decision process (Carrington et al., 2014). Prioritizing ethical concerns is especially helpful for consumers since ethical products can contain numerous ethical attributes, and sometimes even conflicting attributes (Crane, 2001). In fact, it may be impossible for a consumer to find a product that is completely ethical, meaning the product is good for people, animals, and the environment. Apple, for example, runs all US operations and data centers on renewable energy and has been an industry leader in eliminating toxic components from its products (Hawthorne, 2012). However, Apple's record of labor practices is not on par with its environmental practices. In 2010, 18 employees at one of Apple's production factories in China attempted suicide, allegedly due to poor working conditions (Jefferies, 2014). Since that time, Apple has implemented a

number of initiatives to improve labor conditions in its Chinese factories, but this process is ongoing. Consumers who have prioritized their ethical concerns would not have difficulty deciding whether an Apple product met their ethical standards. Conversely, consumers who have not identified their most salient ethical concerns would likely struggle to decide whether or not an iPhone was an ethical purchase. Consumers will have to make trade-offs when purchasing ethical products (Carrington et al., 2014) and individuals should be prepared to choose which ethical attributes are most important.

Ethical consumer choices are also perceived as having greater consequence than traditional consumption choices and can also be emotionally intensive (Ehrich & Irwin, 2005; Steenhaut & Kenhove, 2006). Consumers who are motivated by moral values to help others and the environment but fail to act in line with those values when they shop may experience negative emotions (Steenhaut & Kenhove, 2006). For example, Ehrich and Irwin (2005) found that consumers with deeply held concerns about ethical issues were less likely to request and use ethical attribute information when making a purchase to avoid any negative information about the product. The authors contend that consumers felt stress when they had to consider more product attributes in their purchasing decision. Moreover, consumers did not want to experience the negative emotions that occur if they discover a desired product is not socially conscious (Ehrich & Irwin, 2005). When decisions are complex or emotionally draining, consumers will delay a purchase, avoid the purchase by using existing products, or compromise their ethical beliefs by making purchase decisions on price alone (Ehrich & Irwin, 2005; Hassan et al., 2013; Kronrod et al., 2012).

Ethical product premiums. Consumer intentions to purchase ethical goods can quickly be tempered in the face of higher premiums for ethical products. In fact, price was

a primary reason consumers stated for not consuming ethically (Adams & Raisborough, 2010; Bray et al., 2011; Carrington et al., 2014; Carter, 2009). It costs more to produce and source an ethical product. This cost discrepancy between traditional and ethically sourced products is known as ethical premiums (Crane, 2001; Freestone & McGoldrick, 2008). In the case of ethical product premiums, even well-intentioned ethical consumers might not have the resources to purchase an ethical product. In a qualitative study on ethical consumption behavior, participants explained that they had to continually balance their desire to purchase Fair Trade products with the costs (Adams & Raisborough, 2010). While many consumers are focused primarily on price (commodity segment), others are more concerned with product fit (differentiated segment) (Li et al., 2014). For consumers in the differentiated segment, studies found that consumers are willing to pay a premium for ethical products (De Pelsmacker, Driesen, & Rayp, 2005; Osterhus, 1997; Trudel & Cotte, 2009).

In a series of experiments, Trudel and Cotte (2009) found that consumers paid extra for Fair Trade coffee and organic cotton shirts. More importantly, this study found that consumers punished unethical companies with a price discount that was greater than the premium consumers paid to reward companies (Trudel & Cotte, 2009). This study indicates that ethical consumers are willing to reward ethical companies by paying more for their product, but it still unclear how much more customers are willing to pay. Moreover, the extent to which consumers are willing to pay more for ethical products depends on several factors, such as the quality and availability of a product. For example, if consumers prefer the taste of Starbucks Coffee, they may be willing to pay more for Starbucks' Fair Trade coffee than for Fair Trade coffee at another venue. Ethical choices are no different from

other decisions in that consumers weigh the benefits with the costs (Freestone & McGoldrick, 2008; Sharpe, Barling, & Lang, 2008). As such, consumers will consider the benefits that ethical products provide when deciding if they will pay a premium.

One shortcoming of studies that indicate consumers are willing to pay more for products is that they do not take into consideration the participants' current financial situation. Participants in a study who indicate that they will pay more for a product might only do so if they have the capacity to spend more when shopping. Some consumers have to make more of a sacrifice than others in order to purchase ethically. Studies that assume consumers can pay more for products risk overlooking ethical product premiums as a barrier to purchase.

Quality perception. Another reason ethical consumers do not make ethical consumption choices is because they do not believe ethical products are as high quality as traditional products or that ethical companies can produce high-quality, innovative products (Bray et al., 2011; Gupta & Sen, 2013; Luchs, Naylor, Irwin, & Raghunathan, 2010; Schuler & Cording, 2006; Sen & Bhattacharya, 2001). Sen and Bhattacharya (2001) conducted a series of experiments which demonstrated that consumers were less likely to purchase a high quality printer when the company had a positive corporate social responsibility (CSR) record. The results imply that consumers did not think companies could devote their resources to social practices without sacrificing their ability to make quality products (Sen & Bhattacharya, 2001). In other words, consumers do not associate ethical attributes with increasing product quality or performance (Gupta & Sen, 2013). This research suggests that consumers who intend to purchase an ethical product might not do so if there is no benefit to themselves.

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Research on ethical consumption indicates that some consumers believe that ethical products are not as effective as traditional products. Luchs and his colleagues (2010) found that consumers associated ethical products with gentleness and not strength. Although gentleness is an asset for a product such as baby shampoo when gentleness is a preferred feature of the product, it can turn into a liability when strength is a desired attribute. Participants in the study also indicated that eco-friendly tires would sell better with a strength guarantee (Luchs et al., 2010). The perception of ethical products as being delicate and gentle might prove difficult to overcome. However, sellers can still benefit by emphasizing the quality of their ethical products. For example, consumers indicate that they purchase organic foods when labels claim that they taste better or last longer than their non-organic counterparts (Fernqvist & Ekelund, 2014). In other words, all consumers, whether traditional or ethical, desire a product of high quality. Ethical consumers are not willing to forgo quality and features in lieu of ethical sourcing.

Search costs. As consumers take their ethical concerns to the marketplace, many find it difficult to identify ethical products and companies (Carrigan and Attalla 2001; Hawthorne 2012). Ethical attribute information is not readily available to consumers at the point of purchase, with the exception of product labels. However, product labels can be ambiguous, confusing, and ineffective in informing consumers about ethical product attributes (Beekman et al. 2008). A study on the effectiveness of eco-labeling found that eco-labels did not reduce information disparity between the producer and consumer, nor did they inform buyers of the product's ecological impact, or provide a way to verify whether or not the producer was compliant (van Amstel et al. 2008). Research also indicates that individuals who purchase ethical products rely on information they have

acquired before they go shopping (Adams and Raisborough 2010; Carrington et al. 2014). These findings demonstrate that ethical consumers must make an effort to search for ethical product information and that current information available in stores is not adequate to make an ethical purchasing decision.

Search costs are also incurred when ethical products are not available at stores where consumers typically shop (Adams and Raisborough 2010; Sebastiani et al. 2013). In this case, consumers who prefer to purchase ethical products must expend more resources traveling to other stores to locate the product they want. While it is possible for consumers to reduce search costs by purchasing products online, there are still circumstances when consumers need a product quickly. For instance, if a consumer needs milk or a certain ingredient for dinner that night, and the store some individual normally shops at is out of an ethical product, she might not have time to go to another location to find it. The lack of ethical attribute information and product availability requires that consumers engage in a search process which may prove costly and dissuade ethical consumer choice.

Summary of Ethical Purchasing Gap Research

In summary, research investigating the ethical purchasing gap has identified many areas consumers face obstacles to ethical consumption including: lack of awareness, decision difficulty, ethical product premiums, perceived inferior product quality, and high search costs. These barriers, a description, and example studies are presented in Table 2.2.

Limitations of Ethical Purchasing Gap Research

Although the research investigating the ethical purchasing gap has enriched our understanding of ethical consumers and their behavior, the majority of research findings

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Table 2.2.

Barriers to ethical consumption and example studies.

Identified Barriers to Ethical Consumption	Description	Example Studies
Lack of Awareness	Consumers are not aware of the need or purpose of ethical consumption	van Vugt et al., 2014; Carrigan & Attalla, 2001
Response Efficacy	The ability of ethical consumption to achieve the intended outcome	Bray et al., 2011;
Personal Responsibility	The extent to which consumers feel they are responsible	(Chatzidakis et al., 2007; D'astous & Legendre, 2009; Eckhardt et al., 2010)
Decision Difficulty	Consumers have difficulty choosing ethical products	Broniarczyk & Griffin, 2014; Ehrich & Irwin, 2005
Ethical Product Premiums	Ethical products are more expensive to produce and producers charge a premium for ethically sourced products	De Pelsmacker et al., 2005; Trudel & Cotte, 2009
Perceived Inferior Product Quality	Ethically sourced products are viewed by some consumers as having inferior quality than traditional products	Luchs et al., 2010; Bodur, Gao, & Grohmann, 2014
High Search Costs	Consumers must conduct searches to locate ethical products and ethical attribute information	Adams and Raisborough 2010; Sebastiani et al. 2013

are limited to studying intention to purchase, rather than actual behavior (De Pelsmacker et al., 2005; Shaw et al., 2006). Another limitation of ethical purchasing gap research is that it focuses on the decision to purchase an ethical product at the point of sale and does not consider consumers' intentions before they are ready to make a purchase. This limited

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focus views ethical consumption as a purchasing decision rather than a purchasing behavior, which involves consumer search and product evaluation in addition to the actual purchasing decision. Therefore, this study conceptualizes ethical consumption as a behavior that changes and develops over time. This view of ethical consumption enables researchers to investigate what happens when consumers who intend to purchase ethically or express interest in doing so before they actually make ethical choices.

Marketing and other ethical consumption research fall short in addressing two significant barriers to ethical consumption, access to data and help with making decisions based on ethical attribute information. These studies assume product information is limited to print labels, product prices, and marketing appeals; all of which are offline forms of information. However, IS research is uniquely equipped to address many of the problems consumers face when trying to engage in ethical consumption. ECAs not only provide consumers with information at the time of purchase but also provide decision aids to help consumers evaluate the environmental and social impact of a product before purchasing it. Moreover, ECAs provide general information about ethical consumption, product producers, and ethical product attributes which can be accessed by the consumer at any time. The studies in ethical purchasing gap research are also limited by the information and technology available to consumers. However, with the availability of ECAs, it is important to investigate how information technology is used in the purchasing process and how the provision of ethical attribute information might impact purchasing behavior. This study addresses these shortcomings by studying the impact of technology on ethical consumption.

The Potential Impact of Information Systems on Ethical Consumption

In the case of ethical consumption, access to ethical attribute information is often hidden from consumers. The loss of product information is attributed to complex global supply chains whereby product information is lost or separated during production (Graham & Haarstad, 2011). Instead of acquiring ethical attribute knowledge from a product or company, consumers most often obtain ethical product information from the media, organizations such as PETA, or through boycott campaigns. In fact, news stories of companies violating human rights or damaging the environment are not difficult to find. For instance, an article in *The Guardian* revealed that slaves were used on the fishing boats that supply Charoen Pokphand (CP) Foods, the world's largest prawn farmer, with fishmeal to feed to their prawns (Hodal, Kelly, & Lawrence, 2014). The investigation identified Walmart, Carrefour, Costco, Aldi Morrisons, and Tesco as customers of Thailand's CP Foods. Although forced labor is a known problem in Thailand, officials at CP Foods assert that visibility in the supply chain effectively linking slavery to their products remains low. This example demonstrates how little consumers know about the production practices and impact of the goods they purchase.

Another reason consumers lack information about products is because the only information available at the time of purchase is the product label. However, product labels can be ambiguous, confusing, and ineffective in informing consumers about ethical product attributes (Beekman, 2007). Yu et al. (2009) also identified numerous limitations of label information, such as low readability, no standard of permissible level of specific ingredients, the possibility of fabrication or forgery of an information label, and difficulty in reading information printed on a label. Moreover, labels currently omit some relevant

environmental information such as the CO2 footprint of a product because it is not known at the time of production where an item will end up (Yu, Guo, & Shim, 2009). Research also indicates that consumers who habitually consume ethically rely on information they have acquired before going shopping (Carrington et al., 2014). These findings illustrate the significant effort consumers make to search for ethical product information. Further, the studies highlight the fact that current information available in stores is not always adequate to inform ethical purchasing decision. ECAs provide consumers instant access to ethical attribute information for products they consider purchasing without substantial search costs.

ECAs also have the potential to verify product label claims. The issue of deceptive product labels has recently made headlines in the media. For instance, CBS' 60 Minutes ran a story on Lumber Liquidators that stated its laminate flooring made in China contained dangerously high levels of formaldehyde (CBS & The Associated Press, 2015). Interestingly, all the flooring at Lumber Liquidators carries a label indicating it is CARB Phase 2 compliant, meaning that the wood is compliant with the rules of the California Air Resources Board, which sets the standards for formaldehyde and other chemical levels. In this circumstance, consumers were only provided with information about the safety of the product from a label, which cannot be verified by the consumer. After the story aired on 60 Minutes, Lumber Liquidators' stock shares fell by 20% and March sales fell by 13% (Dulaney, 2015). In another example, OSI Group Inc., a large U.S. meat supplier, was thrust into the spotlight when a news station in China revealed that one of OSI's Chinese subsidiaries was repackaging expired meat and selling it to its customers (Burkitt & Bunge, 2014). OSI's Chinese customers included Starbucks, McDonalds, Burger King, KFC, and

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Pizza Hut. In both of these examples, the product label told a different story about the product, one that could not be verified and one that turned out to be false.

In the case of ethical consumption, consumers who are motivated by ethical concerns now have the information necessary, via ECAs, to make ethical purchases. However, even in the era of the informed consumer, it is not clear how consumers use the information and how the information impacts consumer behavior, or more specifically, ethical consumption. This dissertation investigates ethical consumption in light the availability of ECAs to consumers in order to establish how technology might impact purchasing behavior. In the following two sections I review related IS research that is relevant to this dissertation.

Green IS

Green IS investigates the design and impact of information systems on sustainability (Watson et al., 2010). Although there is a growing body Green IS research the majority takes place on the organizational level, leaving the individual and consumer level of analysis largely unexplored (S. Elliot, 2011; Loock, 2013; Malhotra et al., 2013; Melville, 2010; Watson et al., 2010). In the context of environmental studies, individual-level research has explored the impact of IS on eco-friendly behaviors. For example, Loock et al. (2013) investigated how feedback on the environmental impact of energy consumption can change individuals' energy consumption goals and behaviors. Loock and colleagues found that the combination of a goal setting functionality with feedback regarding goal achievement in a Green IS encouraged consumers to adopt long-term energy consumption behavior. Similar studies have also used feedback from past consumption habits to alter future consumption behaviors (Y.-K. Chen, Wang, Chen, Huang, & Wang,

2012; Peschiera & Taylor, 2012). A more recent study found that IT interventions which provide digital feedback were effective in disrupting unwanted habits and encouraging eco-friendly behavior (Hermsen et al., 2016).

This dissertation continues in the same vein as the aforementioned studies by examining the impact of Green IS on individuals. However, I also expand the scope of previous Green IS studies by extending Green IS research to the domain of ethical consumption. The area of ethical consumption and IS has received little attention in previous IS research. One notable exception is Watts and Wyner (2011) who used a design science approach to identify features of ethical consumption tools that will increase transparency between the consumer and producer and ultimately lead to information adoption and use of ethical consumption tools (Watts & Wyner, 2011). This dissertation builds on Watts & Wyner's study by investigating the impact of information adoption on ethical consumption behavior.

Consumer Informedness and Information Systems

The Internet has increased the amount of information available to consumers about products, which, in turn, has reduced information asymmetry between producers and consumers (Clemons, 2008; Granados & Gupta, 2013; Grover & Ramanlal, 1999). Clemons (2008) contends that there has been a significant change in consumer behavior resulting from consumers being informed and empowered by information availability. Consumers can compare prices and use the Internet to search for the exact product that meets their specific demands (Clemons, 2008; Clemons & Gao, 2008; Granados & Gupta, 2013). However, in regard to ethical attribute information, consumers are still lacking information about how products were produced, company Corporate Social Responsibility

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(CSR) policies, or a product's impact on the environment. Moreover, it is not clear whether or not the provision of ethical attribute information will impact consumption habits and how it will do so.

Although research on individual ethical consumption tools is limited, the IS literature on decision aids and recommendation agents is valuable in understanding ECAs (Pavlou, Liang, & Xue, 2007; Xiao & Benbasat, 2007; Xu, Benbasat, & Cenfetelli, 2014). These studies explore the IS tools consumers use to help make purchasing decisions. For example, Wang and Benbasat (2009) investigated the intentions to use different types of decision aids for online purchasing decisions and found that user intentions were negatively affected by the restrictiveness of the decision aid while explanations about the decision aid processes had a positive effect on intentions to use decision tools (W. Wang & Benbasat, 2009). These findings highlight the idea that consumers are more likely to use decision aids that have transparent evaluation methods and provide a wide variety of tools to help consumers make purchasing decisions. This dissertation explicates the features of ECAs and gathers data from users to illuminate the ability of ECAs to enable or constrain ethical consumption.

Transtheoretical Model of Behavior Change

Although this dissertation was not conducted with a priori theory, I introduce theory in this section to provide a background for the findings presented in Chapter Four. The Transtheoretical Model (TTM) of Behavior Change is a stage model developed by Prochaska and DiClemente (1983) that explicates how individuals voluntarily change their behavior (Prochaska & DiClemente, 1983). The TTM was developed to illuminate how people change, rather than why people change ((Prochaska, DiClemente, & Norcross,

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1992). By understanding how people change, mental health professionals will be better informed on how best to help individuals make changes to their unwanted behaviors. While there are numerous change models, the majority focus on individuals who are ready to change unwanted behavior (Norcross, Krebs, & Prochaska, 2011; Prochaska et al., 1992). However, there are numerous steps prior to individuals taking action.

TTM posits that individuals progress through five stages of change over a period of time: pre-contemplation, contemplation, preparation, action, and maintenance (Prochaska et al., 1992). Although initially applied to changing health behaviors, the TTM has also been effective in guiding interventions to modify behavior (Prochaska & DiClemente, 1983). In the p*re-contemplation* stage, individuals do not intend to make changes to their behavior in the near future (Prochaska et al., 1992). The majority of people in this stage are still unaware of existing behavioral problems. In the c*ontemplation* stage, individuals are aware that a problem exists and are considering changing unwanted behavior but have not made an plans to change (Prochaska et al., 1992). Contemplators also focus on the difficulty of making changes and amount of effort and costs associated with changing their current, unwanted behavior. Individuals in the *preparation* stage are planning to take action in the near future have begun making small changes (Prochaska et al., 1992). In the a*ction* stage, individuals change unwanted behavior by overcoming obstacles that previously precluded them from making a change (Prochaska et al., 1992). During the m*aintenance stage,* individuals endeavor to prevent relapsing to prior behavior (Prochaska et al., 1992).

The primary application of TTM research is in the area of health behavior change. TTM has been studied in the context of weight loss, smoking cessation, and stress

management (Webb & Sheeran, 2006). However, the TTM has not been applied in the context of shopping. I assert that shopping, more specifically changing one's shopping habits, is a good fit for the TTM for three reasons. First, shopping is a habit that individuals are socialized into at a young age and changing purchasing behavior can prove very difficult (Arnould & Thompson, 2005). Second, changing from a traditional consumer to an ethical consumer is a process that takes place over time. Third, becoming an ethical consumer is a voluntary behavior and TTM is a model of voluntary behavior change. To that end, individuals who want to become ethical consumers must make extensive changes to their current shopping behavior to ethically consume. The TTM provides a framework to understand how IS are utilized by individuals depending on what stage they currently occupy. This dissertation assumes that ethical consumption is a behavior and ECAs provide support for this behavior change through the entire process from traditional consumer to ethical consumer.

Ethical Consumption Apps

In order to fully understand the context of this dissertation, it is necessary for me to introduce and describe the information technology (IT) artifact of interest - Ethical Consumption Apps (ECAs). As such, I identified and evaluated ECAs currently available to consumers to gain an in-depth understanding of their features and functionality. Currently, the research on ECAs is limited. In the next sections I define ECAs and explain their features and functionality.

What are Ethical Consumption Apps?

Ethical consumption apps are mobile apps which provide consumers with a product's ethical attribute information for the purpose of informing purchasing decisions. ECAs do not include web search engines, such as Google, but are specifically designed to facilitate ethical purchasing decisions. When downloaded to a consumer's mobile device, ECAs allow users to scan products of interest and receive information on the provenance, environmental effects, safety, and social impacts of products. The idea behind ECAs is to enable consumers to make purchasing decisions that reflect their ethical beliefs. For instance, consumers concerned with animal welfare might scan a product, such as hand soap, to learn if the company that produces the soap tests on animals. The ECAs Bunny Free, CCF, Cruelty-Free, and Buycott supply information on a companies' animal welfare policies. Non-profit groups such as the People for the Ethical Treatment of Animals (PETA) compiled a list of companies and products that are cruelty-free and ECAs pull information from these lists to provide consumers with item level information on animal welfare. As such, consumers can obtain information on their mobile phone without having to search a company or product's website for their animal welfare policies. Through a search of app stores and an Internet search, I identified 30 apps that provision ethical attribute information about a product or company to inform consumers' purchasing choices. In the following sections, I explain how I identified ECAs and describe their features and functionality.

Identifying Ethical Consumption Apps

The first step in identifying ECAs available to consumers was to conduct a key word search in both the Apple and Android app store. I identified ECAs by searching with

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the following key words: ethical shopping, eco-friendly, ethical apps, traceability, sustainable, Fair Trade, environment, and green. Next, I screened the results to ensure that the apps returned in the search were ECAs, meaning that the apps help users identify ethical products and make ethical purchases. I eliminated any apps from the list that did not specifically address ethical purchasing. For example, the app Recycle Nation was identified in the Apple app store when I searched for "green" and "environment." However, Recycle Nation was omitted in this study because the app does not address purchasing, but rather recycling behavior.

I also searched Google using the same key words employed in the app store searches to identify ECAs that might not have shown up in previous queries. I found several articles online that recommended or highlighted ECAs available to consumers. Articles in which authors described and introduced ECAs to readers abound and can be found in The New York Times, The Wall Street Journal, The Los Angeles Times, and Bloomberg. Additionally, many websites offer lists for ethical shopping apps for their readers. From this search, I identified 30 ethical consumption apps and present these in Table 2.3.

Mission of Ethical Consumption Apps

To understand the intended purpose of ECAs, I captured and read the mission statement for each of the identified ECA on its website. Each of the apps have a mission to inform consumers about the ethical attributes of products. Five example ECA mission statements are listed in Table 2.4. The majority of ECA mission statements mention empowering and/or educating consumers so that individuals can make a positive impact on people and the environment. ECAs use a variety of features to fulfill their mission. The various features and functionality of these apps will be discussed in the next section.

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Table 2.3.

ECAs and app website.

App Name	Website
2nd Vote	2ndvote.com
Better World Shopper	BetterWorldShopper.com
Buy Partisan	Buypartisan.com
Buy Up	Buyupindex.com
Buycott	Buycott.com
Chocolate List	Foodispower.org/chocolate-list
CrueltyFree	LeapingBunny.org/guide/apps
Choose Cruelty Free (CCF)	ChooseCrueltyFree.org.au
Ethical Barcode	EthicalBarcode.com
Ethical Bean	Ethicalbean.com
Fair Trade Finder	Fairtradeusa.org
Free2Work	Free2work.org
Go Fair	l-arka.org/projects/price
GoodGuide	GoodGuide.com
Good on You	Goodonyou.eco
Green Globe App	Greenglobe.com/green-globe-app/
HarvestMark	Harvestmark.com
Healthy Living	Ewg.org/apps
My Choice	MyConscienceMyChoice.com
My Milk Crate	MyMilkCrate.com
Non-GMO Project	Nongmoproject.org/
Open Label	TheOpenLabel.com
Orange Harp	OrangeHarp.com
Palm Smart	CMZoo.org
People Tree	PeopleTree.co.uk/mobile-app
PopNod	PopNod.com
Seafood Watch	SeafoodWatch.org
Shop Ethical	Ethical.org/au
Social Impact	SocialImpactApp.com
The Good Shopping Guide	TheGoodShoppingGuide.com

Table 2.4.

ECA mission statements.

ECA	Mission Statement
Seafood Watch	Our mission is to empower consumers and businesses to make choices for a healthy ocean.
Ethical Barcode	Ethical Barcode is a non-profit project that educates consumers about the products they buy and the companies who make them. It was built to enlighten customers about the brands they buy and the practices they are supporting as a result.
Healthy Living	To empower people to live healthier lives in a healthier environment. With breakthrough research and education, we drive consumer choice and civic action.
Orange Harp	Our goal is to provide a complete transparent report about who makes the products you buy, how and where. Orange Harp is a curated marketplace for amazing products made with a deep commitment to the planet and its people.
Buycott	Buycott is the easy, empowering way to vote with your wallet. Join campaigns to support causes that you care about, then use Buycott when you shop to discover how a manufacturer matches up against your principles.

Features of Ethical Consumption Apps

ECAs have a unique set of features available to the user. I identified eight features ECAs utilize to provision ethical information to the consumer. A list of these features and their description can be found in Table 2.5. The primary feature of ECAs is the *product/company search feature* which enables the user to search for a specific product or company in a database to obtain item level ethical attribute information. Depending on the ECA, users conduct a search and receive item level information about various ethical issues related to the product. For example, consumers might search for lotion with GoodGuide. Once they find the lotion they are looking for and select the product, the app will provide

a score and detailed information on the health, environmental, and societal impact the lotion.

Table 2.5.

ECA features and descriptions.

Feature	Description	# of Apps
Product / Company Search	Search option to look for a specific company of product, as opposed to browsing categories	30
Rating System	Rates, ranks, or scores compiled information on a product	22
Information Sourcing	Provides details on where app gets product information	21
Product Recommendations	Recommends products to the consumer which meet certain ethical standards	15
Barcode Scanner	Barcode or RFID scanning feature to identify the product of interest	14
News	News stories on ethical issues and boycott/buycott campaigns	11
Ethical Consumption Education	Education content informing users about ethical consumption practices and campaigns	10
Social Features	Features that allow you to connect with other users or post your findings on social media	6

Screenshots from GoodGuide featuring this functionality are shown in Figure 2.2. ECAs feature four different options for *product and company searches*: product search, company search, category search, and/or UPC *barcode scanner*. The barcode reader allows quick access to information on a product of interest without having to search through a database and type in the name of the product.

Many ECAs also offer a *ranking system feature* which provides the user with a rating or score that ranks a product based on the degree to which it meets certain ethical criteria. Additionally, ECAs provide the *source of information* provisioned in the app and information on how scores were created. For example, the Healthy Living App provides information to the consumer based on research from the Environmental Working Group in Washington D.C. Similarly, Seafood Watch obtains its information from the research conducted at The Monterey Bay Aquarium in Monterey, California.
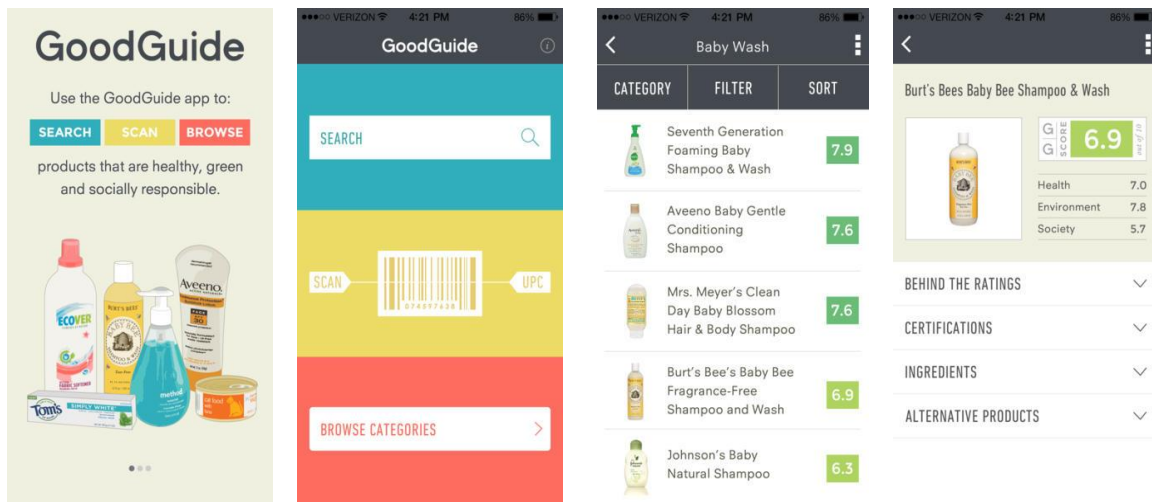
Figure 2.2. GoodGuide App Screen Shots from iTunes Download Page, 2016

Product recommendations are another feature of ECAs. Alternative products that meet certain ethical standards are recommended to users so that consumers can locate a more socially conscious product. A number of ECAs also offer *social features* that offer users the option to share product recommendations, connect with other users, post product information and share purchasing decisions with other users or on social media sites. Some ECAs also offer *news feeds* which provide users with recent news stories on issues and campaigns related to ethical production and consumption. In the same vein, ECAs provide

users with *educational information* about ethical consumption campaigns and issues. For example, Buycott gives detailed information about campaigns and how ethical issues of interest are related to products.

Although these apps have similar features, each app is unique in the way information is presented to the user. For example, the Buycott app allows users to join a campaign of interest, such as the "No Animal Testing" Campaign, and, when the user scans or enters a product, provides information about how a specific product supports or opposes that campaign. Figure 2.3 presents screen shots from Buycott. The Buycott app also provides general information and current news about campaigns or ethical issues that may be of interest to the user. Finally, users can share their purchasing decisions on social media or with the Buycott community. There is also an option for users to contact the company that produces the product they are buycotting or boycotting to inform the company of their choice.
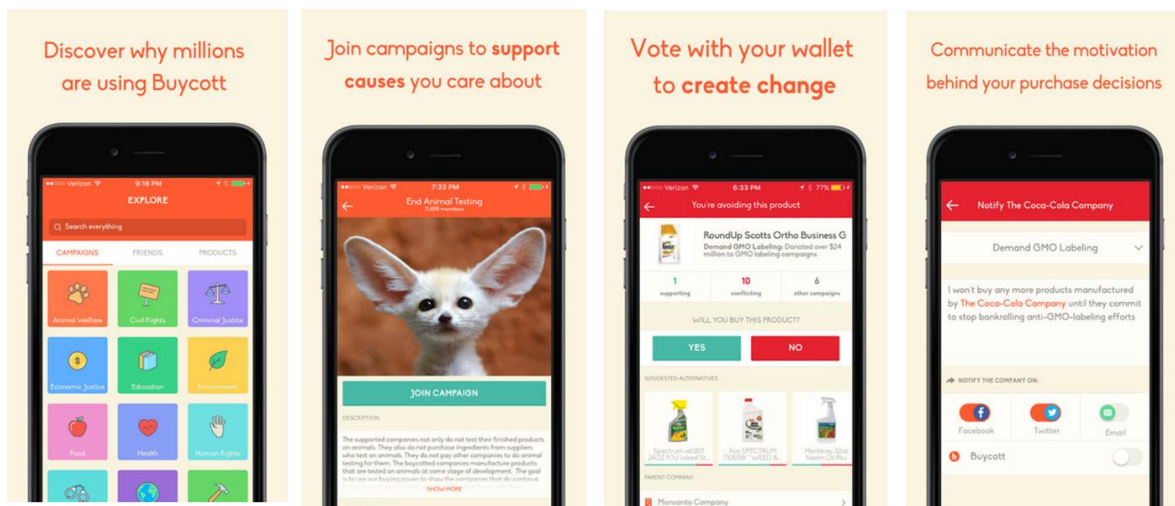

Figure 2.3. Buycott Screenshots from iTunes Download Page, 2016

Whereas Buycott uses campaigns to organize information for consumers, Ethical Barcode organizes information on ethical attributes of products by providing ratings on a products environmental and social impact. This app allows consumers to scan a product barcode and obtain information about the company that produces the item. For instance, Ethical Barcode app will display information about the corporate social responsibility practices of the product producer. Figure 2.4 shows screen shots from Ethical Barcode.
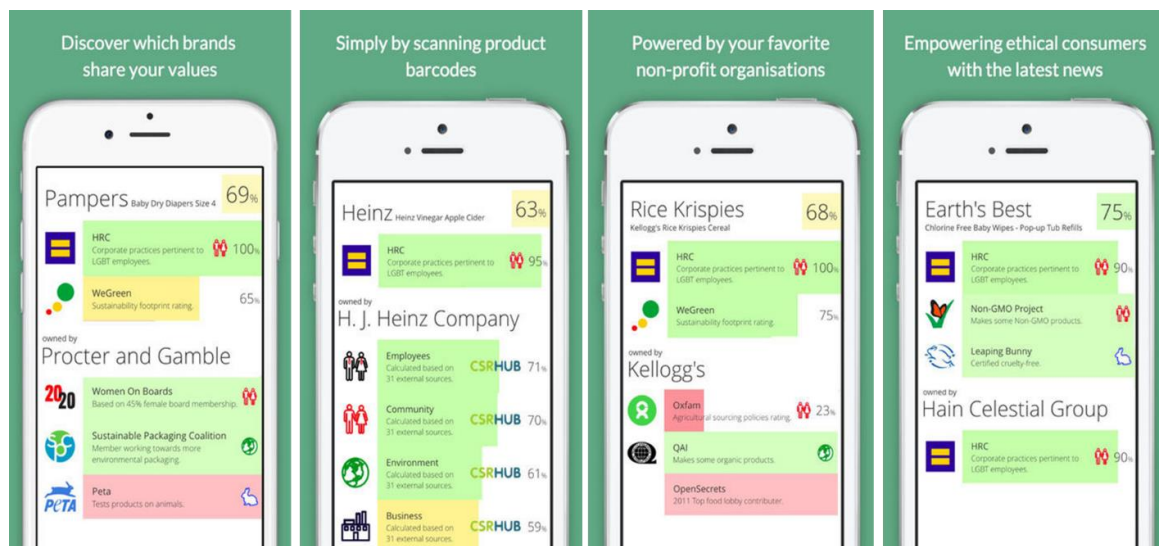
Figure 2.4. Ethical Barcode Screenshots from iTunes Download Page, 2016

Although each ECA has a unique interface and information aspects, there is a common goal of empowering individuals to make environmentally and socially conscious purchasing decisions. ECAs utilize a common set of features to provision item or company level ethical attribute information. Having a thorough understanding of ECAs and their functionality enabled me to understand the views of the users and developers.

CHAPTER THREE

Method

In order to investigate my research questions, I conduct an interpretive study (Geoff Walsham, 2006) using a grounded theory approach (Glaser & Strauss, 1967). The objective of this dissertation is to understand how consumers use ECAs and the impact this use has on their purchasing behavior. As such, this research is based on the philosophical assumptions of interpretive research whereby the goal is to develop an in-depth understanding of a phenomena through the individuals' interpretation of their social reality (Myers, 2008; G. Walsham, 1995). I employed an interpretive study because my goal was to understand how individuals utilized ECAs and the users' account and interpretation of their experiences. In the sections below, I describe the data sources, collection procedures, and methodology applied in this study.

Data Sources and Collection

For this study, I collected a variety of data types including: interview data, ECA user reviews, ECA website documents, articles from the press about ECAs and ECA developers, and interviews with ethical consumption organization staff. Obtaining data from a variety of sources allowed me to get a rich understanding of ECAs, their use, and ethical consumption (Myers, 2008; Yin, 2015). My primary source of data is from interviews with consumers who used one or more ECAs. I rely on interviews from ECA users to gain an in-depth understanding of how consumers use ECAs and the consequences of that use. Consumer interviews are widely used in ethical consumption research as a tool

for studying ethical consumers and their behavior (Barling, Sharpe, & Lang, 2009; Bray et al., 2011; Carrington et al., 2014; Hassan et al., 2013; Memery, Megicks, Angell, & Williams, 2012; Papaoikonomou et al., 2012; Sebastiani, Montagnini, & Dalli, 2013; Shaw, Grehan, Shiu, Hassan, & Thomson, 2005). Some participants used an ECA prior to the project while other participants were asked to download and use an ECA as part of the study. Those participants who have not used an ECA prior to the study downloaded and used an app of their choice for a minimum of three weeks. The participants were instructed to use the app as they saw fit. I did not direct the participants to use ECAs in a certain way or for any certain tasks. The amount of time participants used ECAs ranged from three weeks to three years.

In addition to user interviews, I also conducted interviews with four ECA developers, each of whom worked on a different app. The information from these interviews provided insight into the goals, expectations, and perceived impact of the apps from the perspective of ECA developers. I also obtained information about ECA developers from interviews conducted by the press. These news articles allowed me to get insights from developers who discussed various topics about the apps including the impetus for its development, its mission, and its expected use and impact. Articles included quotes from developers of the following apps: GoodGuide, Buycott, Orange Harp, 2nd Vote and Ethical Barcode. These articles served to help triangulate data from multiple sources and validate responses from interviews with ECA developers (Creswell, 2012; Flick, 2009). I also spoke with four ethical consumption organization staff members. This data source informed my understanding of how individuals engage in civic activities to promote and support ethical consumption. Additionally, information from ethical consumption

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organization staff provided another perspective on ethical consumption and potential role of IS in the process.

ECA user reviews were also gathered for the study. These reviews were posted on the Apple app store and Google Play store. I downloaded 100 user reviews for the following apps: GoodGuide, Ethical Barcode, HarvestMark, Healthy Living, Seafood Watch and 2nd Vote. Thus, I acquired 600 user reviews in total. These reviews were copied into Microsoft Word documents resulting in 40 pages of single spaced text. The comments contain user perspectives on the features and functionality of the apps. A number of the reviews were posted by users who stopped using the app for various reasons and used the review to voice their frustrations about the app's technical difficulties and limitations. Therefore, this information supplied me with current opinions from consumers on the issues and problems associated with using ECAs. In addition, I collected information posted on the websites for each of the ECAs used in the study. This information was used to supplement my understanding of the ECAs used in the study and helped to inform questions for interviews with both users and developers. A summary of data sources and collection is shown in Table 3.1.

Recruitment

User participants were recruited for this dissertation in several ways. First, I contacted several local and national ethical consumption groups and asked them to post a call for participants on their Facebook page or in their newsletter (where applicable). A portion of the groups I contacted focused on environmental issues while other groups focused on social issues, i.e. Fair Trade and Human Rights. Ethical consumption groups

were chosen for recruitment because I wanted to find consumers who were already interested in ethical consumption issues.

Table 3.1.

Summary of data sources and collection.

Data Source	Description	Use of Data Source
User Interviews	Interviews conducted via phone, Skype, or in person. Average interview 45 minutes; 29 user participants; 70 total interviews	To understand how consumers used ECAs and the impact of use on their purchasing behavior.
ECA Developer Interviews	Interview conducted via phone; Average interview time of 1 hour; 4 total interviews	To ascertain the purpose, scope, features, functionality, and future direction of ECAs.
Ethical Consumption Organization Staff	3 interviews conducted in person at workplace; 1 interview conducted via phone; Average interview time 20 minutes; 4 total interviews	To understand the role of ethical consumption groups and how IS might enable efforts to promote and support ethical consumption
News Stories	Articles in the press that include interviews with ECA founders	To ascertain the purpose, scope, features, functionality, and future direction of ECAs. Also used to triangulate data with responses from ECA developer interviews.
ECA User Reviews	Captured 100 user reviews for: GoodGuide, Ethical Barcode, HarvestMark, Healthy Living, Seafood Watch and 2nd Vote; Compiled 600 reviews in total	To gather current opinions from users on the issues & problems with ECAs. Also used to triangulate responses from ECA users.
Website Information	Stored ECA website content about the features, mission, content source and history about ECAs	To validate interview data from users and developers and to ensure I was familiar with ECAs that consumers used during the study.

Posting calls for participants on these Facebook pages provided me with ethical consumers with diverse ethical beliefs. For example, one group was focused on animal welfare while another group's mission is to preserve the environment. Furthermore, some groups supported more liberal leaning causes while other groups were based on conservative ideals. In addition to participants from ethical groups, I recruited participants through a snowballing technique (Biernacki & Waldorf, 1981; Patton, 2001). This technique is a referral system whereby participants recommend people to participate in the study (Biernacki & Waldorf, 1981). Utilizing the snowballing technique, I asked current participants and colleagues to recommend people that might be interested in participating in the study. This method proved helpful and I was able to recruit the remaining user participants needed for interviews.

In order to recruit ECA developers for the study, I sent out emails to the press office or directly to the ECA founder. I sent out a total of seven emails and heard back from four ECA developers, all of which agreed to be a part of the study. I used a similar method to recruit ethical consumption organization staff members for interviews. I emailed the communications contact at these organizations and secured an interview with four staff members, each working at a different organization. The organizations varied in their focus. One focused on sustainable food production, another on political issues, one on eco-friendly behavior, and one on Fair Trade issues. Overall, I contacted 52 people, including users and developers, for interviews and received 41 responses. Four participants dropped out of the study because their schedules did not allow time for interviews. Consequently, the total number of participants for the study totaled 37. A breakdown on participant groups is presented in Table 3.2

Table 3.2

Participant breakdown.

Participant Group	# of Participants	Description of Participants
Consumer/ User	29	Consumers that used an ECA
ECA Developers	4	Individuals who developed an ECA or worked with the team that developed the app
Ethical Consumption Organization Staff	4	Individuals who work at or lead an ethical consumption organizations
Total Participants	37	

Participant Interviews

Interviews were conducted over a sixth-month period between late September 2016 and March 2017. Semi-structured interviews were used because they are said to create an open dynamic which allows participants to freely express their views (Flick, 2009). All interview guides are presented in Appendix A. Once participants were recruited, I spoke with each individual in person or on the phone. During this initial interview, I discussed the study in more detail and gathered information about the participants' current shopping habits and ethical consumption beliefs. Prior to our phone conversation, I emailed potential participants with a consent form to participate in the study. This consent form provided information about the study, what participation would involve, Baylor IRB information, and a portion to consent to be in the study. A copy of the Baylor IRB decision letter is presented in Appendix C.

During these initial interviews, I took notes making sure to note the tone of the participant when the conversation consisted of the participant's thoughts on ethical consumption and ethical issues of interest. The initial interviews were not recorded since the goal was to get general information from the participant and establish a rapport. The

duration of the initial interviews ranged from 10-20 minutes. During these conversations, I scheduled a time to conduct an interview with the participant to discuss their views and experiences with ECAs.

Although the initial interviews were not recorded, all subsequent interviews with participants were recorded and transcribed with the exception of three because recording equipment was not available at the time of the interview. Each participant gave explicit consent for interviews to be recorded. For those interviews that were not recorded, I took extensive notes during the meeting. Some participants were interviewed more than once if the participant felt that she/he wanted to discuss additional thoughts on ECAs. I had four participants whom I interviewed twice after our initial visit because the participant expressed a desire to discuss more about his/her experience. Although all the interviews were semi-structured, some questions were added in the latter part of data collection as salient concepts emerged from the data (Strauss & Corbin, 2007; Urquhart, 2012).

Grounded Theory Methodology

This study applies Grounded Theory Methodology (GTM) to analyze data (Glaser & Strauss, 1967). GTM was chosen for two reasons. First, ECAs are a new phenomenon and grounded theory is useful for studying new and under-researched trends (Eisenhardt, 1989; Glaser & Strauss, 1967). Second, GTM is appropriate for contexts involving sequences, processes, and change, and for developing process theories (Glaser & Strauss, 1967; Orlikowski, 1993; Urquhart, 2012). Thus, GTM is fitting for this study because it investigates how consumers use ECAs to help change their purchasing behavior. GTM has been used in both IS (Birks, Fernandez, Levina, & Nasirin, 2013; Orlikowski, 1993; Urquhart & Fernández, 2013) and ethical consumption research (Bray et al., 2011;

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Papaoikonomou et al., 2012) indicating that GTM is an accepted methodology for this topic.

The purpose of GTM is to generate concepts, schema or theoretical statements related to a social phenomenon (Charmaz, 2006; Glaser & Strauss, 1967). In line with GTM, my analysis involved a highly iterative process of theory building that included a constant caparison of the data and literature to provide clarification of emerging themes and constructs (Glaser & Strauss, 1967; Strauss & Corbin, 2007; Urquhart & Fernández, 2013). For coding my qualitative data, I employed established coding procedures for GTM (Charmaz, 2006; Strauss & Corbin, 2007). More specifically, I used the coding process outlined by Strauss and Corbin (2007) involving open, axial, and theoretical coding. All coding was conducted using QSR NVivo software (Bazeley & Jackson, 2013). As required in grounded theory, data collection was tightly interwoven with data analysis.

During open coding, I read through the transcripts to get a general impression of the findings and then assigned codes to each line of text (Strauss & Corbin, 2007). I then compared each event, quote, and instance captured in the data for similarities and differences. Similar text segments in the interviews were grouped together to form codes. Next, I conducted axial coding to reveal dimensions of concepts and relationships among concepts for the major themes that emerged from the data (Strauss & Corbin, 2007). The data analysis directed the process of theoretical sampling, which refers to the selection of participants on the basis of concepts that have emerged from analysis (Strauss & Corbin, 2007). The analysis showed that a consumer's ethical consumption beliefs were significant in determining how ECAs were used. This observation led me to recruit participants with certain ethical beliefs in the study. This process of constant comparison between data

sources continued until no new concepts appeared, indicating that I had reached theoretical saturation (Glaser & Strauss, 1967; Urquhart, 2012).

The last process in analysis is selective coding. During this procedure, I examined literature to assess how the emerging concepts related to existing literature. For example, it became apparent early on in the analysis that consumers held diverse opinions on ethical consumption and had vastly different shopping habits. I found that ECA use differed depending on ethical consumption beliefs and shopping habits. I also learned that ethical consumers did not start purchasing socially conscious products over night. Instead, making ethical consumption a lifestyle took a considerable amount of time and effort, usually developing over many years. Thus, ethical consumption is not a decision at the point of purchase but rather a process of changing one's shopping habits from that of a traditional consumer to an ethical consumer. I compared these findings with the literature on individual behavior change and found that these observations are consistent with the Transtheoretical Model of Behavior Change (Prochaska & DiClemente, 1983). This theory validated my findings that consumers traverse different stages of ethical consumption behavior.

In order to validate the emerging theory, the results of the initial analysis were shared with four ECA user participants, one ECA developer, and academic colleagues (Klein and Myers 1999). These interactions help to improve my understanding how consumers used ECAs. The analysis revealed seven major themes including: justification, identification, resolution, validation, cognitive dissonance, consumer empowerment, and belief informing. These themes and the relationships among these themes are presented in the next chapter.

CHAPTER FOUR

Results

Overview of Emerging Theory

The results of this study indicate that ECA users fell into one of four stages of ECA use: Justification, Identification, Resolution, or Validation. Each stage differs on several factors. The first is the users' consumption habits. The findings show that consumers in the justification stage are *traditional consumers,* meaning they currently base their purchasing decisions on price and quality. Users in the Identification stage are *contemplating consumers,* meaning that they are contemplating ethical consumption but have not started purchasing socially conscious products. Consumers in the Resolution stage are actively making plans to engage in ethical consumption in the near future. I labeled these consumers *transitioning consumers* because during they sometimes made purchases based on ethical beliefs and other times made purchases based on price and quality. Finally, users in the Validation stage are *ethical consumers*, meaning they regularly engage in ethical consumption.

Each stage of ECA use has varying levels of cognitive dissonance and consumer empowerment. Cognitive dissonance is an uncomfortable feeling that is present when an individual simultaneously holds conflicting beliefs, thoughts, or attitudes (Festinger, 1957). When users are presented with information that conflicts with their current beliefs about ethical consumption or presented with information showing that their actions do not align with their values, users experience cognitive dissonance and will take action to reduce the conflict (A. J. Elliot & Devine, 1994). The findings indicate that users will seek to

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alleviate psychological dissonance by justifying their current behavior or by adjusting their consumption choices to be consistent with their beliefs.

Users also experience consumer empowerment at varying levels in each stage of ECA use. Consumer empowerment is a positive state that is present when consumers feel a sense of control over consumption choices (Brodie, Ilic, Juric, & Hollebeek, 2013; Füller, Mühlbacher, Matzler, & Jawecki, 2009; Pires, Stanton, & Rita, 2006). ECAs empower consumers by providing them with the knowledge and with the tools needed to make ethical consumption choices. This combination of knowledge and choice empower individuals to take control of their shopping habits and make informed purchasing decisions. The differing levels of consumer empowerment and cognitive dissonance impact how consumers ultimately use ECAs.

The stages of ECA use demonstrate that consumers use information differently during each stage of behavior change. In the Justification stage, consumers utilize information provisioned through ECAs to justify their current consumption beliefs. Consumers use ECAs to build their ethical consumption self-identity in the Identification stage. In the Resolution stage, users seek to resolve cognitive dissonance by acting in line with their ethical consumption beliefs. Finally, users in the Validation stage utilize ECAs to ensure that the products they purchase are ethically sourced.

Given that ethical consumption is a behavior that is developed over a period of time, it stands to reason that consumers will traverse the stages of ECA use as their consumption habits change. Just as with the TTM, users can transition through the stages of ECA use, relapse to an earlier stage, or remain in one stage permanently (Prochaska et al., 1992). The stages of ECA use represent how information technology enables voluntary behavior

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change as consumer progress from traditional consumer to an ethical consumer. In order to show the relationship between the stages of IT enabled behavior change, I propose a Model of IT Enabled Behavior Change. This emerging theory is presented in Figure 4.1.
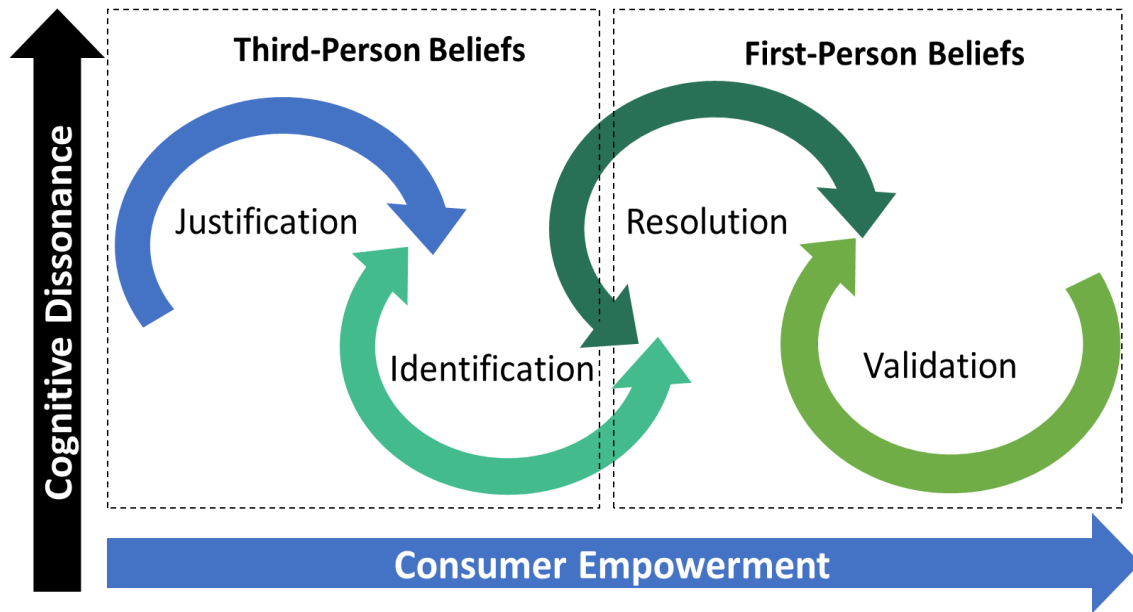
Figure 4.1. Model of IT Enabled Behavior Change

The four stages of IT Enabled Behavior Change and supporting findings are discussed below. For each stage, I focus on the user consumption habits, how ECAs inform beliefs, the extent of cognitive dissonance and consumer empowerment present, and how the users ultimately use information provisioned in ECAs.

Justification Stage

Traditional Consumers

Participants in the justification stage considered themselves traditional consumers, meaning that they made purchasing decisions based on price and quality. The users in this stage did not feel they needed to change their purchasing behavior; however, they were

interested in having more information about their products and wanted to be better informed. Additionally, these consumers were interested in using an ECA. When asked about their purchasing habits, traditional consumers were open about explaining that they generally go for the best quality item for the cheapest price and do not look any further. One traditional consumer noted: *"Honestly, if I see a product I need and it's at a good price and I'm at the store, I'm going to get it, I don't care at that point about how it's made."* Another traditional consumer explained what he looks for in a product:

> *I weigh brand name and quality against price and I can't tell you, unfortunately, quantitatively how I do that. I'll look at basically those two things. If I can get brand name or perceived quality I'll take that, but if something has an overwhelming better value from sale or something I'll get that. I guess you could say I try to get a lot of what I presume is quality or brand name stuff, but if between two brand names one is cheaper than the other that's always the deciding factor...I don't really ever consider anything further than that.*

The fact that traditional consumers do not purchase ethically does not mean that they are not aware that products and companies are associated with ethical issues. In fact, this particular group of consumers acknowledged that ethical consumption is a way to express one's beliefs about ethical issues. However, they knowingly made purchases on price and perceived value. One user noted that some of the products he purchased were from companies known to be eco-friendly or to have sustainable business practices but that was not the reason he purchased the products. Instead, his focus was on getting the highest quality product for the lowest price, it just so happened that the product was also eco-friendly. As this user stated:

> *If I'm going to spend more money on it, I'm probably doing it 100% because I really need it. I just don't go around spending a lot of money on things and then be an activist about it. If I'm going to buy a car, a Subaru, which I drive a Subaru, and everyone assumed I voted for Hillary because I drive a Subaru, right? I don't care because I'm not spending $10,000 or*

whatever it was that I bought that car for because the company is liberal, eco-friendly, ethical or whatever. Nobody else's opinions matter at that point. I don't really care. I'm thinking 100% selfishly.

Moreover, these users did not have a history of participating in boycotts or ethical consumerism in the past. They did not find ethical consumption to be effective and therefore did not feel ethical consumption was necessary. The following users discuss their feelings about ethical consumption. *"As an individual I don't feel like if I stop shopping at a certain store that the world is going to change... I have not participated in boycotts because I feel like my contribution to ethical or political values is not based on how I spend money. I contribute or express my views differently."*

Another user in the justification stage stated:

That's not my personality to boycott or support a certain product because of xyz. It probably at some level informs my thinking, but I've never out and out said I will not buy x because of whatever. It does kind of inform my thinking now and again. I do have a personal bend for it if I could get something that I knew was ethically sourced, I may do that. I'm not going to do the research and the leg work to make sure what I'm buying is ethically sourced.

Although participants in this stage expressed interest in learning more about their products and were enthusiastic about using ethical consumption apps, they did not change their shopping behavior.

Informing Third Person Beliefs

The participants in the Justification stage were very active in exploring ECAs by searching through product databases and scanning product barcodes. In fact, those in the Justification and Identification stage were the most active users of ECAs in that they scanned more products and consumed more information from the apps than those in other stages of ECA use. In this stage, the barcode scanner, search features, and information

sources were the most utilized features. Traditional consumers were interested in information that informed their third person beliefs, which are the consumer's general beliefs about ethical consumption. In other words, the users in this stage were not interested in finding alternative products or seeing how the current products they purchase rate in terms of ethical attributes. Instead, users focused on general information about ethical consumption. Although users did scan products, they did not do so out of a specific need for product attribute information.

These users described scanning products in their home that they had already purchased and products of interest in the store. Some even reported scanning products that they were not interested in buying. However, the users were not searching for a specific piece of information nor did they have an application for the information. One user commented:

> *Really I was just scanning barcodes out of curiosity. It was very interesting to pick a single product and then go down or roll up and try to figure out what's the parent company behind this product, because when I buy JIF peanut butter, that's just the peanut butter I buy, I don't consider what major multi-national conglomerate it comes from. I was like, "This is a brand of peanut butter I like. It's quality, I don't have a problem with it, it tastes good." It's what I buy. It is interesting but I just honestly start scanning things around the house because I'm just curious. Again, I'm not using it necessarily how it's intended, by really latching on to certain campaigns and really being invested in that.*

Another user described her use of the app when asked why she scanned so many products she had in her pantry:

> *Pure intellectual curiosity. That the information is there. The ease of use, just one day if I'm bored or if I have something ... it's easier than hopping on my phone or computer and Googling, "What is this root beer company? Who owns them? Who is the CEO?" Yadda yadda yadda. It is much easier to pick up a physical item, scan the barcode, and have all that information presented. Like I said, it's just pure intellectual curiosity. I just don't know, sometimes I'm just curious. It is a very easy tool just to be curious with…*

I will say, in my time using it, it never discouraged me from buying something, it just made me more aware of that product. 'Oh, okay, so their company has been cited or accused of child labor.' Or whatever.

The users in the Justification stage appeared to enjoy using the app and found the information interesting. However, this enjoyment of learning new information did not translate into action. In fact, beyond classifying the information provisioned through the apps as interesting, the consumers did not find any particular use for the information. The ethical attribute information did fill an information-gap and provide new information about a product, but it did not motivate the user to make any changes. As one user comments:

I did not find any of the information in these apps useful. Mainly interesting, only from, yeah, only from a standpoint of just gaining some knowledge. I don't get any feeling about it, to me it's just information, it doesn't elicit any emotional response. Then when I say information, it's mainly knowledge it's not even information that I use in a decision-making process of any kind. I'm not going to go to Murphy Gas because they supported an LGBT group, I could care less that they supported that. I don't care that Bass Pro Shop gave money to the NRA, I'm going to go there regardless, if they did or if they didn't. Knowing that they gave it is interesting, I was like, oh so they're actually brave enough to give money to the NRA, but the fact that they gave it in no way alters my decisions.

Another participant described his reaction to the information they read in the app: "*It doesn't make me necessarily feel one way or the other, other than it's just interesting to me. It's interesting. It's cool. It doesn't really influence my purchasing decision I would say as of yet, but it's fun to read.*"

These quotes illustrate that traditional consumers found the information interesting and consumed a great deal of information from ECAs, even though they had no interest in changing their purchasing behavior. However, the information did not have the intended impact on the users in this stage since the user did not change their purchasing decisions. These findings also highlight the fact that use of individual IS do not necessarily translate

to the intended behavior. In the next section, I describe the users' reaction to learning ethical attribute information.

Justification of Current Beliefs

The idea behind ECAs is that users will consume information about the ethical attributes of products they purchase and respond by making more sustainable purchasing decisions. As one developer explained, "*If people are exposed to socially conscious ideas in the first place, people are inherently good and slowly they will make the jump…Once they learn, once they take the time and learn, wherever they can, they will make the right choices.*" However, this was not the case for users in the Justification stage. Simply presenting users with information describing the environmental or social impact of products was not enough to persuade traditional consumers to make ethical purchases. Instead, the ECAs presented information that is in direct contradiction to the consumers' beliefs about ethical consumption. Since the users in this stage do not believe that ethical consumption is necessary or useful, reading information suggesting that ethical consumption is an action the user should participate about their consumption beliefs puts users in a state of psychological dissonance.

For these consumers, the information in ECAs primarily reinforced their existing beliefs that ethical consumption is difficult, ineffective, and unnecessary. Furthermore, when these users disclosed that they were not going to change their behavior, they often followed up with statements to indicate that ethical consumption is absurd or silly. For example, one user stated:

> *I just can't, especially on the Buycott app. Boy that stuff is crazy. I mean there's actual campaigns, that you should boycott these 38 companies, and Kroger, Coca-Cola, Diamond Shamrock, Chevron, McDonald's, but I*

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mean everything I go to is on there, and it's on there for a reason like, these guys have refused to give money to save rhino horns in the southern part of Africa.

The users also challenged the idea that engaging in ethical consumption was possible given the difficult task of finding any products or companies that produced products in an ethical way. Hence, the users felt that it was not reasonable to expect consumers to make ethical purchases when sellers do not make them readily available. One user commented:

And it's like gosh, I mean Laurie, they [Buycott] really have listed every top, the top 100 companies in America and are like, boycott all these companies. Afterwards, after what's left is, if you punch those into Google Maps and hit delete, there's no company within a 100-mile radius of my house. But I understand where they're coming from, but again I don't feel like I can adjust my lifestyle to do that.

Other participants echoed this notion that ethical consumption was nearly impossible task.

I scanned some organic chicken stock from my little grocery store thinking it was all good, and it told me, "Try to find one that uses free-range chickens." They didn't have a suggestion for me. There wasn't an option. You know what I'm trying to say? What am I going to do, raise some chickens? Yeah, I'm not going to go hunt down a chicken, and de-feather it, and all that good stuff.

Another user noted:

The app didn't influence my decision-making because it saved me neither time, nor it saved me money, ... In fact, if I'm going to live my life boycott, or live my life spending my money based on political views or based on ethical views, then I'm going to end up having to do that across the board, and in my life, or my spending habits and the time it takes to find a proper place to spend money, costs me way more than its even worth. Unless I know a company is like, there's video of them on the internet making five year olds work in a sweat shop, it's just not happening, I'm going to keep going to that company.

Users also made comments that undermine the idea of ethical consumption by suggesting that making a truly informed and ethical choice is not possible. For example, one user mentioned the difficulty of checking the information for accuracy while another

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suggests that there is no standard for ethical decisions. One user commented: "*I think the biggest barrier for me with using these apps was just the amount of time it would take to source that information to make sure you're getting the right things.*" Another user noted:

> *For my mind set the apps do not help me make a decision because I will not gather information I need for an ethical decision. I mean math has got a solid reference point, two plus two equals four, but ethics, morals, environmental problems, these don't have a right and wrong answer, unless it's like to say something egregious, a company that murders kids, yeah, we're going to vote that's bad. But if their CEO has a private plane, some person finds that terrible and will refuse to support the company, to me it doesn't matter. I don't feel like that's an environmental problem.*

In the minds of these users the difficulty and uncertainty of ethical consumption justify traditional consumerism. The focus of users in this stage was on whether or not ethical consumption is a legitimate behavior in which consumers should engage. The ECA failed to persuade traditional consumers that ethical consumption is a worthy endeavor. One explanation for the users' defense of traditional consumerism is that they felt the information in the apps told they how they should respond to issues or pressured them to behave in a certain way. This situation creates a perfect storm wherein users are presented with disconfirming information and, at the same time, feel powerless to make any changes. When the users felt that their choices were taken away, they reacted by questioning the validity of the claims presented in the app and the efficacy of ethical consumption in general. One user commented:

> *I'm just not going to go in and buy a product because GoodGuide says I should. I guess it's kind of skepticism, I wasn't going to buy or not buy the product because GoodGuide said it was worth it. First of all, I don't know how they come up with their data, I don't know their metric system, and they say that they try to, if you read their Our Data section. That they found to be reliable and cross-referenced, but I mean am I supposed to believe it's good work because these guys have got seven people working on it, I mean how diligent are they? I mean if manufacturing and things change constantly, how do they know that the product that they rated a*

product of eight yesterday, two weeks from now isn't going to be making it with a different chemical or a different item? How up to date are they on these metrics, and if these metrics are even accurate. I mean especially with the ethical side of it, ethics is based on a perspective. Just because they say it's ethical doesn't mean I say it's unethical, and so I didn't find that useful.

These users also expressed their feelings about ethical consumption being a way for people to feel better about themselves, rather than helping other people. One user explained:

I was trying to use it as a decision tool just for information. I think it was really trying to form some kind of social community around the idea of corporate social responsibility and conscious consumerism. Which for me personally kind of rubbed me the wrong way. It just seems oddly self-serving and privileged where, honestly what I saw on there was just a bunch of white people who seem super happy about their buying habits. Like, "Look how socially responsible I'm being. Let me post it on this app and show you that I'm being socially responsible." It seems like it did much more for them in the long run than it did externally for the company or against the company or for whatever campaign they were trying to support. It just seemed like a badge of honor that they would wear around and say, "This is what I did today. I boycotted this company because they're evil."

These comments highlight the users' belief that the outcome of ethical consumption is uncertain, and the information provided through the apps is suspect. This uncertainty provided traditional consumers with another reason why ethical consumption was a pointless endeavor. The argument is that since the user cannot be certain that the information in the app is unbiased and accurate, then there is no reason to make a decision based on that information. As such, traditional consumers feel they are justified in making purchasing decisions based on price and quality without regard for the impact of consuming the product. This finding does not mean that traditional consumers' concerns are invalid but that ECAs failed to provide evidence powerful enough to convince users in this stage of the validity of their claims. The traditional consumers felt that the onus to demonstrate the importance and necessity of ethical consumption is on the app developers or sponsors

and until they can provide a convincing argument traditional consumers will continue their current consumption habits. Although the traditional consumers spent considerable time using ECAs, the apps were not effective in persuading these consumers to make changes to their purchasing behavior.

<center>*Identification Stage*</center>

Contemplating Consumers

Consumers in the Identification stage of behavior change are aware of ethical consumption and have a desire to change their purchasing behavior. Users in the Identification stage have some knowledge about an issue that they feel strongly about and are interested in learning more about ethical consumption issues. As the name of this stage suggests, users contemplate many aspects of ethical consumption including how consumption impacts society and the environment. Moreover, consumers consider how engaging in ethical consumption will alter their current purchasing behavior. However, the uses are not quite ready to take action. Typically, users learn about ethical issues from friends, colleagues, or the media which trigger their interest in ethical consumption. Some users had recently watched a documentary or read a news story that brought awareness to certain issues such as slave labor, animal welfare, or pollution. One user explains what sparked his interest in ethical consumption:

> *I was looking at a documentary earlier this year detailing how revolutionary the human mind has taken food consumption into a new area, and how we've mistreated animals, and how certain companies or organizations have mistreated animals to the point that it's something that's so atrocious. One thing that I found in particular about this video was that it claims that if you supported or ate any of these products from these companies, you were deemed a speciesist, which was interesting to me. I don't know if you're familiar with the term, but what a speciesist is someone who puts their [sic] own species at a higher priority than other*

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species. They made a correlation, in fact, that if you were a speciesist, you were also considered by nature a racist, in a philosophical type setting. I found that interesting, and I thought, what could I do to be more responsible, and be more consistent with my beliefs and ideals in a philosophical setting, so this way I wouldn't be contradicting myself and would have consistency, which is something that I deem is very appropriate in my life.

Whereas some participants in the Identification stage had been thinking about ethical consumption for a short time, others had been interested in the idea for several years. For instance, one participant expressed interest in ethical consumption after recently taking a corporate social responsibility class at her university. Another user had been exposed to ethical consumption issues through a relative, over a number of years. These participants enjoyed learning about ethical consumption and engaging in conversation about the topic. However, these users had yet to act on their newly acquired knowledge. One user comments: *"I think when I'm in a conversation or if I see something on TV then I start thinking about it [ethical consumption] more but then I don't know that my behavior has changed, but yeah I am at least thinking about it."* The observation that consumers spend months to years thinking about ethical consumption is in line with findings from Prochaska et al. (1992) who found that some patients trying to quit smoking stayed in the Identification stage for as long as two years (Prochaska et al., 1992). Even though these users have been exposed to the idea of ethical consumption, they still took a considerable amount of time to contemplate how ethical consumption would impact their lifestyle. The information provisioned in the app increased consumer awareness of ethical consumption and shed light on users' options in making changes to their consumption habits. In the sections below, I present findings on how participants in the Identification used ECAs and the impact of ethical attribute information on user's behavior.

Consumer Empowerment

Users in the Identification stage were very active in exploring ECAs. Similar to consumers in the Justification phase, these participants primarily utilized the scanning and searching features of the apps. Contemplating consumers were very curious and explored ECAs to gain information about ethical consumption and how it relates to products. However, contemplators did not search for specific information because they are still learning about ethical consumption and they did not know what to look for yet. As such, information in ECAs informs consumers about ethical consumption in general and not specifically about their current actions. One user explains how he first engaged with Buycott App, *"I joined a bunch of campaigns that I wanted to support, and then to test out the app, I went into a CVS and just started scanning everything. I remember going to CVS and scanning stuff, and into CITGO."*

The information provided in the ECAs provided users with information about ethical consumption issues and informed them that there they have a choice to purchase socially conscious products. ECAs are especially helpful for those at this point in the process who are uninformed about ethical issues. Moreover, this information gives users a sense of empowerment. One user comments: *"It makes me feel good. I'm getting educated to know what choices to make. Even if I can't make a different decision, I do want to be aware. Knowledge is power and I just like to be in the know."* ECAs give users a sense of consumer empowerment because they get information and realized that there are other options available to them when it comes to consumption choices. The users highly enjoyed getting new information and were surprised at the amount of information available in the apps. The information facilitates the process of linking ethical issues to products.

Consequently, the users started thinking differently about products and what products represent. As one contemplative consumer stated:

> *I was really surprised by how much information this app offers, and how much it can just tell you about the background, and it makes it really easy to do so, just like, "Oh, this product supports ..." Let's say prison labor, then on to the next one, you scan it real quick, and see if it does. You know what I mean? It's really helpful in that sense. It gives you a lot of information really quick, and I was very surprised by the sheer amount of information that was at my hands. This app has opened my eyes in a sense, and showed me just how much goes on. If I, for example, support a campaign, and you don't even realize that ... I found that, I think it was Charmin, they use prison labor, and I had no idea, whatsoever. It really has raised my awareness, this app.*

Another user explains how he thinks differently about products after using Ethical Barcode:

> *When I think of a product I usually think "Oh, I need this thing", not, "what does this company represent? Who are they supporting?" I just haven't thought that way before. Using the app, I'll think about those kinds of things differently now. Now, I thought about it with other products, more like restaurants, or clothing departments. I don't know, I was more thoughtful about it in those ways, like who are they standing for?*

These users also noted that ECAs provided them with novel information about companies and products that might be useful for future purchases. One user discusses his unexpected findings.

> *I found it surprising about how responsible actually the Heinz Company was in terms of their corporate practices and treating their employees. I found that surprising. I found it also surprising, if we're speaking on a broader sense, that it didn't just provide where the sourcing or the, what do you call it, the product flow. It gave you more than that. It talked more about what their corporate responsibilities were, their impact on the community, and their CSRHub evaluation. I thought that was really interesting, and it definitely made me consider other factors as well, rather than strictly looking at how they produce their products.*

Despite adopting information, users were still not ready for action. One reason users want information even though they are not purchasing ethical products is because users consider knowledge as a form of action in its own right. Although users at this stage have

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not changed their consumption habits, they do consider learning about ethical consumption as a form of action. Just being educated about ethical issues represents the start of the ethical consumption process. One user comments, *"I think just being more educated and informed on those kinds of issues makes a difference."* Another user explains why learning about ethical issues was so important even though she was not ready to take action:

> *Yes, I would still look it up. It's back to the whole knowledge is power. Even if I can't do something about it, knowing more about it is almost doing something about it. It's almost like, I may not be able to donate to people who are being human trafficked or something like that. But somehow being empowered by their experience, or the organizations that help them. Knowing that I'm armed with information for when I'm ready.*

Even though these consumers are not at a decision point about what product to purchase, there are still decisions that have to be made about ethical consumption in general, and how it relates to user's shopping habits in particular.

Building an Ethical Consumption Identity

Using ECAs during the Identification stage primarily serves to help consumers build their ethical consumption identity, which is defined as the extent one sees himself/herself as the type of person who consumes in an ethical way (Cook, Kerr, & Moore, 2002; Price et al., 2014). As users read about ethical attributes and ethical consumption campaigns, they discover what issues are important to consider when making a purchase. Consumers begin thinking about shopping and consumption in new ways. Moreover, contemplating consumers encounter information on how they can make a difference with their purchases and users determine whether or not this action (ethical consumption) is something they envision for themselves. For example, one user commented:

One thing I didn't expect was to really learn about myself as a consumer. Responsible consumption is something that was new to me. When I started using an app, I realized there were other criteria than just sustainability or using organic materials or the things that concerned me alone. When I started to see that it has to do with things down to the way animals were treated, the way their employees were treated, I feel very strongly that I have a responsibility to be a person who helps others. I don't think I understood how much of a difference I could make just by being aware of what someone's working conditions are or how a particular animal is treated. Using the app opened my eyes to all of the things that could or should be considered when making purchases. It made me stop and consider that. Now, even when I'm not using the app, I do research on that.

The information in the app provides opportunities for users to reflect on issues associated with products and decide if that issue is worthy of consideration. As consumers learn about ethical consumption, they also associate themselves with people or groups who have similar beliefs. Over time, users in the Identification stage build a solid ethical consumption identity wherein they see themselves as one who purchases in a socially responsible way. One user asserted: *"I can choose where I spend my money. Everyone has that decision, so for me it's more just knowing that and having that information is what's beneficial for me."* In other words, ethical consumption is something that expresses who they are as a person. Consumers in the Justification stage may think that ethical consumption is a laudable pursuit, but they do not feel that ethical consumption is the right for them personally. However, users in the Identification stage believe that ethical consumption is the right course of action to take. As one user comments:

I found it very enlightening, looking into that. I found that CSR is a lot more important than the emphasis I had put on it from when I first started using the app. I found myself shifting focus a little bit from not just the production line, like I said, more focused on everything in general. I found it extremely enlightening, and I found it useful. For some companies, it gave me insight of how they conducted themselves, and that they were essentially greedy or not.

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ECAs enable consumers in this stage to gain knowledge and an understanding of who they are as a consumer. However, these consumers still acknowledge that ethical consumption is difficult and that there are obstacles they will have to overcome before that are ready to take action. One notable issue that users faced is that even if they wanted to make ethical purchasing decisions, their family members did not want to change brands.

> *But he has his certain things that he likes, and so if I say, "Well, you should get this," he's going to look at the price and say, "This is cheaper," or, "This is kind of like what we've bought forever," and change is not as much in his repertoire as mine. Like, I'll try a product and if I don't like it, then, well I know I don't like it.*

For example, one user is considering boycotting Nutella because it contains palm oil, an ingredient associated with a number of ethical issues such as child labor and destruction of resource rich eco-systems. However, her children love Nutella and there is no comparable substitute. Other users expressed similar issues with wanting to consume ethically but not having the freedom to make different choices.

Resolution Stage

Transitioning Consumers

During the Resolution stage, consumers identify products that align with their ethical values and make plans to purchase ethically in the near future. I call these users transitioning consumers because they are starting to purchase ethical products but still have not made ethical consumption a lifestyle. These users have already established their identity as an ethical consumer and know which ethical attributes are important to them. In fact, users expressed incredulity that more consumers were not engaging in ethical consumption. For example, users stated the following comments: "*It's just a little bit concerning that more people don't stand for what they believe with where their money is,*

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because money is what moves our country.", "I'm shocked at the number of people that don't know what they are really purchasing.", and *"I was also amazed that, before I just blindly bought products without having any background knowledge whatsoever in how this product is made, and who actually makes the product, and what goes into this product. You just buy it, and go home."* These quotes illustrate that those in the Resolution stage have identified a clear distinction between themselves, who intend to consume ethically, and those who are traditional consumers. Also, these consumers are aware that they are different from other consumers now that they are informed about ethical attributes.

Consumers in the Resolution are identifying problem areas and making specific plans to take action. Some users had already made a few changes to their purchasing habits but they had not made ethical consumption a lifestyle. One user discussed her future plans to switch from her current car insurance company after she discovered it was a member of a coalition which opposes her conservative values. Additionally, she learned through the 2nd Vote app that this company financially supported Planned Parenthood, an organization she does not support. She comments: *"As soon as I'm financially able, which April would be the time, I am switching my insurance company. And I would pay more in order to not support Nationwide, or Allstate for ethical reasons. They were a great company, and I'll explain why I'm switching and stuff to them when I do it."*

At this point, the consumers have moved beyond focusing on what not to buy and focus their energy on finding products to purchase. This Resolution to purchase ethically sourced goods is instigated when the consumer is faced with evidence that the products they currently use and purchase do not align with who they are as a consumer. When the consumer's identity is threatened, they will work to resolve this internal conflict by first

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boycotting and then moving forward to find products which do align with their beliefs. In the following sections, I present results which show how users in this stage evaluated their products with an ECA and made a decision to act.

Informing First Person Beliefs

Users in the Resolution stage have ethical issues that they are interested in and seek to find products which align with their values. As such, their exploration of the app differs from users in the Justification and Identification stage. Consumers in the Resolution stage are more interested in how products align with certain ethical issues and specific products that are available for them to purchase. Essentially, information provisioned in ECAs informs first person beliefs, or beliefs about how they can consume ethically. As one user notes, *"What I found from using the app was basically to see where companies lie on a corporate social responsibility scale and how they conduct themselves and determining whether those actions align with my beliefs."* To obtain this information, users exploited the search, ranking, and alternative features are most utilized during this stage. The resulting search for products is specific and users adhere to evaluating products they have already purchased to assess the ethicalness of their products.

Psychological Dissonance

Unfortunately, this search does usually return good news to the user regarding their purchasing decisions. Users are often shocked and frustrated about how their current products score in terms of ethical attributes. As one user explains:

> *The biggest surprise for me was that a cleaner ... There's a line that I use called Mrs. Meyer's. I was actually shocked to find out that they do animal testing. I've used their products for years and years. I use their soap, their laundry detergent, and their cleaners. It really shocked me that something*

that would be sold in a health food store like that would use animal testing. I was angry with myself for using it all those years. I was just really frustrated that my money was going towards that. It was after I had already bought it. Just out of curiosity I was scanning it and I'm going, "I'm sure this is fine." I was thinking it was going to pop up with all this stuff about no animal testing and, "We use wind power to power our plants that make this," and all that. It wasn't anything like that. I just never knew that Mrs. Meyer's cleaning, that they hated animals so much.

Although this user had a long history of purchasing this product brand (Mrs. Meyers), she deciding to boycott the brand after discovering it tested its products on animals. By purchasing Mrs. Meyers, this user felt that she violated her conscience and who she was as a consumer. Consequently, she began her search for an alternative product and found a substitute using the alternative product recommendation feature in Buycott. Also evident in the previous quote is the frustration and anger these users feel when they find out a product they previously purchased and believed to be ethical did not actually align with their values. In this situation the consumer felt that they were acting in socially responsible way when they purchased a certain product and felt betrayed by a company when they found evidence to the contrary.

The following examples illuminate this reaction. One user had gone to a chocolate company based out of California for 20 plus years and had the belief that a small American company would use Fair Trade cocoa. Prior to the Resolution stage she had not researched this company to verify if the company used Fair Trade chocolate. However, when she researched the company using Buycott and Ethical Barcode, she found that there was no information available on the source of the chocolate.

I could not find any information on the app about this chocolate company that I have gone to since I was a kid. I was stunned so I went to their website and everything trying to find out where they get their chocolate and could not find any information. I am sure it is because their chocolate is not Fair Trade. I was devastated. It's like finding out your family

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veterinarian beats dogs. I will have to buy the Fairtrade chocolate I get at World Market until I can find some other alternatives. I hate not to buy that chocolate because I love it but I can't buy it knowing that it could be coming from child labor.

Another user had a similar reaction when she learned that Benefit make-up brand, which she was very loyal to, used an ingredient that was potentially harmful to consumers. This user captured a screenshot of what she found in the app which can be seen in Figure 4.2.

Resolving Psychological Dissonance

Despite challenges in finding product substitutes with the same quality or price, these consumers persist in their search to identify a product that aligns with their identity. Although users might not be able to make an immediate change they will make plans to do so in the near future. One user explained her course of action when she discovered that Benefit Cosmetics was not in line with her values, *"Now I have to take action, and I have to switch make-up brands. I cannot buy this product knowing that it has toxic ingredients."* The users at this stage of behavior change move beyond focusing on the barriers to consuming ethically and find ways to resolve the internal conflict, even if the change is minimal. As such, the information consumed in the app does inform specific action and
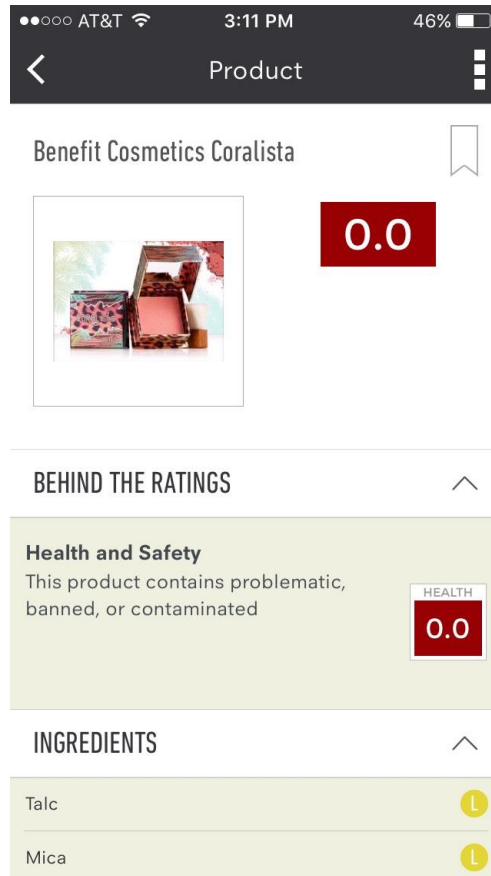
Figure 4.2 GoodGuide Screenshot with Benefit Cosmetics Rating

enables consumers to move forward with changing their current behavior. One user commented how he looks for more information now that he has the app: *"It wouldn't be something I would do in my free time. I wouldn't look up farmhouseeggs.com. I wouldn't really go to their website but now I will because now I'm more informed with the app. So the app is almost like it's empowering me to investigate further and find out what I need to change."*

The users in the Resolution phase were mostly concerned with buying an ethical product to resolve the internal conflict that resulted from evaluation of their current purchasing habits. Consumers expressed their need to consume in a way that would not violate their conscience or values. The users in the Resolution phase also discussed the

need to be authentic and true to themselves. These findings indicate that participants believed that purchasing an ethical product was effective in resolving internal conflicts of intentions and actions. For example, one user noted, *"When I made a choice to buy a different product my conscience is clear because I do not have another option."* Another user explained her need to consume ethically:

> *First and foremost, the impact of this choice is on my personal conscience. I can't live with myself if I know I'm not supporting a company that is awful to animals. I'd like to think that my five, ten, fifteen bucks that I don't give to companies, that I don't support, makes a difference, but I don't really know. In the moment of decision of buying a product, I'm more concerned about my personal conscience.*

Even if the change in behavior is small, consumers in the Resolution stage still purchased ethically sourced products because that decision resolved the cognitive dissonance that transitioning consumers face when their actions do not align with their values. As one user comments:

> *If I were to put it in words, I would say that purchasing socially conscious products would mean more self-assurance that I'm doing the right thing, and that I'm following my values, and I'm being consistent, not contradictory, not contradicting myself, or not changing views or values for the sake of selfishness or greed. That's something I find important.*

Moreover, ECAs gave them the ability to find alternative products, assess their current consumption habits, and make different choices. As such, ECAs empowered users to make new choices, choices that they could not have been in a position to make without having used the ECA. It is combination of both high cognitive dissonance and high feelings of empowerment that all individuals to take action in this stage.

Ethical Consumers

Consumers in the Validation stage have already identified many ways to consume ethically and have incorporated ethical shopping into their lifestyle. These participants have made significant changes in their purchasing habits prior to the study and continue to search for ways they could make ethical consumption choices. The users in this stage are ethical consumers and take considerable time to research the impact of their products and to find ethical products and companies to support. Moreover, this behavior had developed over a number of years, with individuals being interested in conserving resources and consuming responsibly from a young age. One user detailed her interest in veganism and sustainable consumption which began when she was a child and continued to grow throughout her adult life experiences. She comments:

> *I lived overseas for a year. There's a lot of slaughtering of animals, and it's very cruel and we probably eat way more meat than we need to. And then learning what we do in America. So it was really a mix of a lot of things. But it started super, super young. I think I was always aware of animals, and the earth from very, very young. And then some health issues and living overseas heightened my awareness of that. Now I am very particular about what I buy.*

Participants in the Validation stage recounted similar experiences with becoming exposed to and interested in ethical consumerism. One user recounts her decision to participate in the boycott of Nestlé in the late 1970's after learning of their marketing campaign for breast milk substitutes. The user reflects on this experience in the following comment:

> *I will not buy any Nestle products because their whole thing with baby formula and convincing mothers, and doing this whole marketing campaign to get them off of nursing and telling them that they need formula is better for their baby. Then, their milk dries up and they're dependent on the formula. Formula is so much worse for babies than natural mother's milk. To me, it's immoral, unethical behavior by a*

company that's subverting natural things in life for the purpose of making a profit. Well, all these came out when I was young, when I was a young woman. I mean, here I am in my 50's, and I never buy Nestle products if I can avoid it. I mean this is a boycott, if you will, that's going on for 30 years.

A theme emerging from the stories participants have about their interest in ethical consumption is that they felt personally impacted by an issue. The users in the Validation stage had experienced an event which conflicted with their personal values and pushed them toward action. As one participant notes:

I was doing transcription and data entry for a company, they were having to transition all of their safety data sheets to a new government regulated format. These safety data sheets were for chemicals that they bought and sold, both here in the US and internationally. These safety data sheets actually go into pretty vivid detail about the side effects of what would happen if you were to come in contact with those chemicals. Most of that information was gained through animal testing. It was absolutely awful. I hated it. Most days I left crying, because I can't imagine animals just being in a lab being tortured just for the sake of knowing that, yeah, this chemical's going to harm you. No shit. It was something that I, before all of that, I watched for, but because of that experience with my job, it became a huge priority for me to pay attention to, because I was so traumatized by these reports. Now, I'm for cosmetics and anything like that, I will look on the bottle for the symbol that shows that it's cruelty free and that they don't do animal testing.

This story illustrates the progression of this user from Identification to Validation. In other words, these users have gone through the previous stages of the TTM, Justification, Identification, and Resolution, before making ethical consumption a lifestyle. While a variety of events led consumers to make changes to their consumption habits, the change did not happen overnight. Most users had been thinking about ethical consumption for at least five years and started making incremental changes in their purchasing decisions. It is clear that changing consumption habits takes time and considerable effort to transform ethical consumption into a lifestyle. As one user explains:

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> *All of the stuff we learned about sustainable farming and production kind of played a role in how we approached our shopping moving forward. And it was a long process. We started small, and at first it felt overwhelming trying to understand what was what. Then over time you just start to know what to look for.*

Ethical consumers have very clear sense of what they want in a product in terms of ethical attributes. These preferences influence how the users in the Validation stage utilized the app.

Informing First Person Beliefs with Specific Information Searches

According to the TTM, the Validation stage is the busiest phase for individuals (Prochaska et al., 1992). However, those in the Validation and maintenance phases were the least active users of ECAs. The participants in the Validation stage expressed concern that they would not be able to contribute much insight to the study because they did not use the ECA very often. This infrequent use of the app was a consistent finding among the ethical consumers. One reason for this behavior is that ethical consumers have already found brands and stores they trust to deliver ethical products. As one user comments:

> *There are these lists, these official lists from the gurus, and the experts, and doctors, and health practitioners, and wellness experts that says, "Shop at this place to get animal-friendly products." Like Thrive Market; I like Thrive Market. I can go on Thrive Market, and I can sort by gluten-free, or vegan, or environmentally-friendly, or whatever like that. So I can actually sort that way. So when I'm choosing where to shop, I already have places in mind that are from some of these lists that I see online. It's kind of like, "Thrive Market is awesome!" Or, "Trader Joe's has a really good detergent." So I'm a part of these communities where people say, "Let's support this particular entity or organization because they actually care about these things.*

Given that the users in this stage had already started taking action, they only used ECAs when evaluating unfamiliar or new products they have not obtained ethical attribute information. As such, these users relied on the scoring/ranking, product recommendation,

and information sourcing features to help them make ethical purchasing decisions. Essentially, ECAs serve as decision aids and recommendation agents for the users in the validation stage. For example, one user scanned several cosmetic products using the Healthy Living App to ascertain which product was free of toxic ingredients. The products all ranked similar to one another but the user went with the product with the highest rating. Another use of ECAs is to recommend products that have certain ethical attributes to users. One consumer used Seafood Watch to recommend the best choice of wild-caught salmon when her usual brand was not available. The goal was to determine the salmon with the least impact on ocean wildlife. The app recommended Atlantic salmon using a closed tank method and Atlantic salmon caught with net pens as an alternative; both of which were available at his local grocery store.

High Consumer Empowerment

ECAs also organized product information in a way that helped the user get the information they wanted quickly and reduced the search costs ethical consumers face when having to research a product online. Researchers have identified search costs as a significant barrier for consumers who wish to consume ethically (Carrigan & Attalla, 2001) and the ability to reduce those costs is an important benefit identified by users in the action stage. As one user notes: *"When you look up stuff on the internet, you get so much information. It's very difficult to search some of it, so if something's buried 25 pages in about the company, and it is hard to get that out. The app curates the information for you, it makes it easier."* Another user explains how ECAs are able to provide the information she needs to make a decision:

It's super-fast. It saves me a lot of time because all I have to do is scan the barcode and it brings everything up for me. With Google I had to research this company, who's their parent company, and then I had to dig a lot deeper. These companies, if you go on their website it's not going to say, "We do animal testing. We believe in animal cruelty." You know? "We're polluting the environment," or, "We're supporting child labor and we don't support Fair Trade." You know what I'm saying? I like the app because it's really quick and it tells me right off the bat the kind of decision I need to make about that product.

Thus, ECAs enable consumers to engage in ethical consumption when they are in a position to act. Many ethical consumers are willing to make a different choice if they can get access to the right information at the right time. Additionally, users feel like they can trust information in ECAs more than messages communicated through marketing or products labels. One user explains her feelings about the information she received from the Healthy Living App. "*I feel like you can't trust marketing. I feel like marketing tells you what you want to hear, and is targeting a specific audience. It's not necessarily completely truthful or factual. They can make claims that are stretched a little bit. I feel to be an informed consumer you have to do a little more research and the information this app does that for you.*"

Since ethical consumers are looking for certain attributes in a product, they performed very specific searches and did not take time to explore the app or search for products that were not of interest. This behavior is in stark contrast to the users in pre-action stages who scanned products and consumed information without an established use for it. Ethical consumers are asking questions such as: Does this lotion have microbeads? Is this product using conflict minerals? Does this company support women and minorities? The users looked for the information they needed to make a decision and acted upon this information. Engaging an ECA for specific information is the use that developers

envisioned for the apps. The co-founder and developer of an ECA describes the typical app user and their preferences for a specific type of product:

> *Our users definitely understand the choices that they make, and they are very socially conscious. They demand more information from us. They definitely have some awareness. We get users who want to make a difference, and who are very particular about the choices that they make. Who take time to do research about what they are buying, and who want to be very sure about where their money goes to. They are looking for a certain type of product.*

Although ECAs were helpful to ethical consumers as decision aids, they fell short in meeting all the expectations users had about the app. These users voiced frustrations with the app including a lack of personalization and information sourcing. The preferences of ethical consumers vary wildly and are often very specific. One consumer might want a product that is Fair Trade and cruelty-free while another ethical consumer prefers a product that is sustainably sourced and produced. Just as with voting, individuals have different perspectives and beliefs they support, and consumers show that support or opposition with ethical consumption.

Two ECAs, 2nd Vote and Buycott, both allow users to input their preferences for ethical attributes. For example, in 2nd Vote, users can rank the importance of the issues that the app provides information about (i.e., environment, 2nd amendment, immigration). 2nd Vote also provides news stories about the particular issues the user identifies as important. Buycott also allows users to personalize their experience by joining the campaigns they are particularly interested in, enabling the user to see how products scanned either support of conflict with the campaign of interest. Some popular campaigns are: Boycott Income Inequality, Pro-GMO? Or Pro-Right to Know, Boycott Koch Industries, and Support Fair Trade. Still, these personalization options did not assuage the users' desire for a more

personalized experience. When asked how an ECA might be helpful, participants expressed a desire to get one score that incorporated all the ethical attributes a person was concerned about. In other words, consumers want the app to tell them "yes this product is up to your standards" or "no, it is not." One user comments:

> *I just want to whip out my scanner and just be and it's like, "Green light! Thumbs up! That's why I was excited about the Ethical Barcode is that, I'm so trying to make radical decisions that I would want assistance in making those decisions more swiftly and with greater insight. So I thought, "Well, an app is a simple way to garner information without doing hours and hours on the Internet."*

An ECA developer expressed interest in this idea when asked how he thought ECAs might be more effective. The developer asserted:

> *I don't even think they need a rating. I think they need a yes, no... This one isn't going to kill you and it's also not going to destroy the planet. You'll change the consumer's buying habits just by saying, "This is the one you want." If you want to click a button, get all the details, here they are or just trust our assessment and go on with your life.*

These comments demonstrate the desire of both users and developers to use ECAs as a personalized decision aid.

Validation of Ethical Consumption Behavior

For users in the Validation phase, the information in the apps served to confirm that the products the user purchased was ethical. Additionally, the information validated ethical information the user had obtained from other sources. This confirmation left consumers feeling good about their ethical choices and beliefs. Furthermore, the information provided users with a sense of empowerment and support for their actions. One user comments:

> *That I was able to put in things and it actually gave me different ratings and suggestions. So it made me feel ... I felt empowered to be like, "I have my secret weapon. I can just whip out my phone and go 'Boop' and then I'll know if this product is on the right side of morality, or on the wrong*

side of morality." On my right or wrong side...It was kind of a feeling of ...And empowerment isn't a feeling, but it's feeling secure. I can feel confident in my purchasing decision.

Given the lack of information about ethical attribute information, consumers are not always positioned to make an informed choice. In the case of uncertainty, ethical consumers revert to cues from the product label, brand, and price to make the most ethical choice. However, these circumstances are less than ideal since the user cannot get feedback on whether or not they are performing the action correctly. Thus, ethical consumers are left without the satisfaction of knowing whether or not they were successful in achieving their goals. To illustrate this concept, one can look at the feedback one gets when quitting smoking. In the case of smoking cigarettes, there is a clear benchmark for success or failure of quitting this behavior; an individual either smoked or abstained. However, a benchmark for consuming ethically can be elusive.

Determining whether or not a company is environmentally friendly would take considerable effort given that there are so many areas a company might satisfy this requirement. On one hand, a company might use solar panels to power its facilities, use production practices which preserve water, donate to Green Peace, and support organizations lobbying for cap and trade. On the other hand, a company might do one of these things and not the other. This information can make it difficult for consumers to determine if a company is in fact reducing its impact on the environment. As such, consumers in this situation need assistance to confirm that a company or product is in line with their beliefs and ECAs provide this information. As one user explains: *"They've done the legwork for you. They know what is important for consumers like me. And when I scan a product, it spits out the information for me that would take hours to figure out for each*

item. They give me that permission to buy with full freedom." To this end, ECAs provide users confirmation that they are consuming ethically. This information also enables consumers to improve and refine their ethical shopping behaviors.

> *I think it just, I just helps me when I think about it, like say for instance, if I wasn't using these apps, if I didn't know that this information was out there so easily, I would probably just continue to buy intuition. For instance, the laundry detergents that are free and clear, like the ones that don't have dyes and don't have scents. I think the typical consumer is going to think, oh well that must be better for my family, it's probably better for the environment. When actually, when I look up like All Free & Clear, which I still have some of, it rates as not well at all because of what we're flushing into the water system and the impact on our water...So, the app helps me know that I am buying what I think I am buying which in this case is a laundry detergent that is good for people and the environment.*

When consumers in the Validation stage receive conformation that they are consuming ethically, they feel good about their decisions and more importantly, feel good about themselves. Although consumers would like for their purchasing decisions to influence companies to produce socially responsible products, they acknowledge that ethical consumption may not have the desired impact. Nevertheless, ethical consumers will still choose to make a purchasing decision that aligns with their values, regardless of the impact on businesses.

> *You know, honestly, I wish I could say that ethical consumption has this wonderful, profound, far-reaching, global impact. I live in a place where responsible consumption is so rare. When I look at that, I do feel like my choices are a drop in the ocean compared to what might need to happen in order to change the way people think about things. Personally, it makes a huge impact in the way that I see myself. I think it's interesting to pay attention to the importance of feeling good about your own personal choices. I think that in and of itself, even if you go back to enlightenment thinking, I think it makes me a better citizen. Even if I'm not having this great impact on the whole wide world, the fact that I'm impacting myself, my choices, my home, I think in the long run, if we all did those kinds of things, then the bigger picture would take care of itself.*

Other users made similar assertions about the impact of ethical consumption decisions. Consumers want their choices to make an impact on production practices and alleviate the negative impact of their consumption. However, users recognize that this impact may not be realized until more consumers engage in ethical consumption. Still, ethical consumers continue to make changes, even small ones to ensure they are acting responsibly. As one user comments about his ethical choices, *"I feel more confident in my purchasing, my choices of purchasing. More self-assuredness with my beliefs and values, and I think that I feel like even though it's a small difference, it's something. I'm at least contributing something. I'm not just out there doing nothing."*

These comments draw attention to the feelings of satisfaction and contentment ethical consumers feel when they make socially responsible purchasing decisions. The positive feelings of empowerment that accompany ethical consumption encourage consumers to continue efforts to find ethical products to support. In this capacity, the ECA provides support that individuals need when changing their behavior.

CHAPTER FIVE

Discussion and Conclusion

Discussion

With this dissertation, I explored the role of IS in ethical consumption. There are number of individual IS that provide vast amounts of information to consumers (Baskerville, 2011). Many of these IS are proposed to help individuals make decisions and change behavior, including ECAs. However, research investigating how individuals use ECAs and the impact on their behavior is lacking. This research advances a Model of IT Enabled Behavior Change which illuminates the role of IS in enabling voluntary behavior change.

The Model of IT Enabled Behavior Change implies a transitory relationship among the stages. To that end, it is important to identify ways users might be encouraged to advance through stages with the goal of moving consumers to a place of action. Given the varying levels of cognitive dissonance and consumer empowerment at each stage of ECA use, consumers could be encouraged to move forward through the model by adding features and functionality that adjust perceived levels of cognitive dissonance and empowerment. The stages of IT Enabled Behavior Change are shown in Figure 5.1.

One way consumers in the Justification stage could be encouraged to move to the Identification stage is to increase consumer empowerment by providing more information about the efficacy of ethical consumption in making an impact. The users in this stage are

traditional consumers who have not been convinced that ethical consumption is worth the time and effort. Thus, users need more information at this stage about ethical consumption
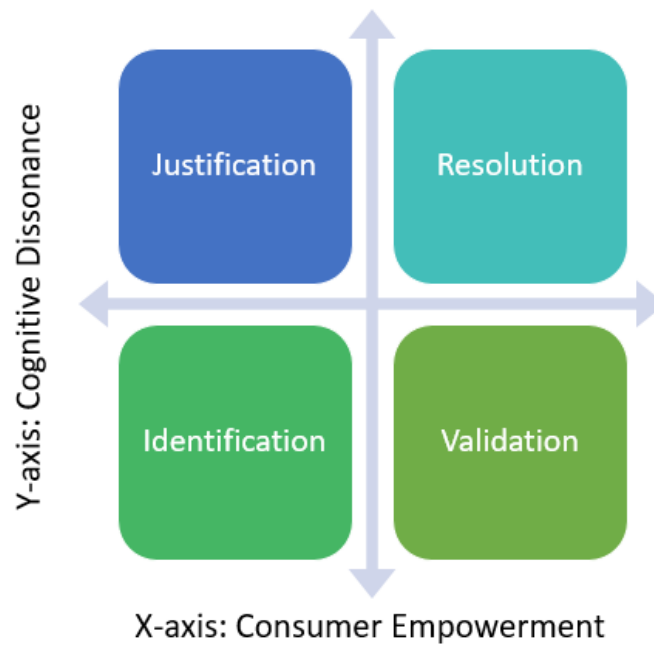

Figure 5.1. Stages of IT Enabled Behavior Change

and how it can easily be integrated into one's life. There is very little information in ECAs geared toward traditional consumers, who are the majority of shoppers. Additionally, traditional consumers need to feel like their personal tastes and preferences can be expressed with ethical consumption. Users in the Justification stage felt like ECAs pushed certain choices and beliefs on the user and consequently concluded that ethical consumption was not their choice. As such, ECAs should provide information on ethical consumption but not tell the user what choice he or she should make. At this stage, benefit appeals highlighting the benefits consumers gain when purchasing an ethically sourced product would likely persuade traditional consumers to consider purchasing a socially conscious product since they are motivated to purchase based on product price.

Consumers in the Identification stage want to consume ethically but are still figuring out how that can make that change. As such, ECAs should provide individuals in this stage with personalized recommendations on how they overcome the obstacles to changing their shopping habits. For example, contemplating consumers voiced concerns about ethical product premiums and ethical product quality. ECAs could suggest alternative products that met the users' particular needs. The could be achieved by providing consumers with a way to search for alternative products and filter the results based on attributes such as price, location, color, ingredients, etc.

Consumers in the Resolution stage are ready to act but need to know about opportunities to act in line with their values. One to achieve this would be for ECAs to allow consumers to enter the current products they purchase and have the ECA show them areas where they could purchase an alternative product that is ethically sourced. The users in this stage are ready to make a change and in a position to act if they know of areas they can make a change. Moreover, with the right information these consumers can transition to an ethical consumer.

Although ethical consumers do not have another stage to progress, they do need support to prevent relapse into previous stages. One way to keep users active would be to provide reminders or notifications to users to help them be mindful of their purchasing decisions and opportunities to make ethical purchasing decisions. Ethical consumers expressed their desire to keep consuming ethically and often forgot to use ECA to evaluate a new product because using the ECA was no longer a habit. Another possible solution to get ethical consumers to continue using ECAs is to provide news stories with updates on the effectiveness of ethical campaigns and the need for continued action.

Implications for Theory

This research makes several contributions to theory. First, this research advances a Model of IT Enabled Behavior which increases our understanding of the role of IS in facilitating the process of behavior change. This model contributes to the TTM by identifying the impact of cognitive dissonance and consumer empowerment during the process of behavior change. When cognitive dissonance was high and empowerment was low, users utilized the IS to justify their current beliefs and did not engage in action. Moreover, this research extends TTM research by identifying how ECAs can inform consumers at different stages of behavior. This research suggests that individuals in the pre-contemplation and contemplation stages are focused on third person beliefs and search for information to increase their understanding of the desired behavior. Our findings also imply that individuals in the preparation and action stages of behavior change require information informing first person beliefs.

This research also contributes to IS literature by explicating the role of IS in behavior change. Previous IS research on consumer behavior has limited the role of IS to that of a decision aid. However, this research expands this view of IS by showing how ECAs function as an aid in behavior. These findings also indicate that individual IS are more than information receptacles. ECAs empower consumers to make purchasing decisions that align with their values by providing access to ethical attribute information. Moreover, ECAs act as decision aids by scoring products on ethical attributes. ECAs also recommend products that meet certain ethical standards and allow consumers to connect with ethical consumption organizations and other ethical consumers. As such, individual IS are powerful tools which have given users a sense of control over their purchasing habits.

Finally, this research contributes to ethical consumption literature by conceptualizing ethical consumption as a behavior which takes place over time. This research implies that ECAs play a role in facilitating and enabling consumers to move from intention to action. The findings indicate that ECAs help consumers establish an ethical consumption identity, which is necessary before consumers will make changes to their purchasing habits. Additionally, ECAs provide easy access to ethical attribute information and allows consumers to assess the impact a product might have on the environment or people. This means that when consumers are ready to make socially conscious purchasing decision, ECAs can provide them with the information needed to act.

Implication for Practitioners

This research puts forward important implications for app developers, policy makers, and product producers.

ECA developers. Although ECA developers in our study disclosed that their app was created for ethical consumers, traditional consumers in this study were interested in having more information about the products they purchase. Thus, ECA developers are missing an important opportunity to educate and persuade traditional consumers to make changes to their consumption habits, especially those who are curious and enjoy obtaining information about their products. Given that traditional consumers make up 50-70% of consumers it stands to reason that engaging traditional consumers in ethical consumption is a worthy cause since increasing the number of ethical consumers would improve the effectiveness and impact of ethical consumption.

The findings of this study show there are ways that ECAs could be improved. Those areas are: goal-setting features and feedback. Extant research on persuasive technologies and energy conservation tools demonstrate that goal setting is effective in helping individuals change behavior (Hermsen, Frost, Renes, & Kerkhof, 2016; Karlin et al., 2015; Loock, 2013). As such, ECAs should provide a way for users to measure their progress and set goals to motivate continuous improvement. Additionally, ECAs should provide consumers with more personalized feedback. For example, an option input your grocery list and have ECA tell you how the products on your list align with your ethical values would be of considerable value for consumers. Having feedback on behavior is essential to gage success and find areas of improvement.

Policy makers. This research contributes to the goal of sustainable consumption and production by exploring the ways ECAs can inform consumers about environmental and social impacts of products. ECAs provide a great tool for policy makers to connect with consumers and provide ways users can take action to advance causes they care about. Also, policy makers could use ECAs as a platform to educate consumers on new policies and how those policies impact consumption decisions.

Product producers. One takeaway for product producers is that consumers are using ECAs and these apps offer opportunities for companies to communicate their corporate social responsibility policies to consumers. ECAs also offer a wealth of information on what ethical consumers want in their products. Product producers could communicate with ethical consumers and become co-producers of socially conscious products.

Implications for Consumers

Since this research is conducted on the consumer level it makes sense to discuss the implications this research has for consumers. The findings of this research indicate that consumers interested in ethical consumption and those already consuming ethically experienced consumer empowerment when using ECAs. The users felt they had more information about their products and empowered to make a different purchasing decision if they were able. Consumers who feel empowered are said to experience positive emotions while shopping (Brodie et al., 2013; Füller et al., 2009; Shaw et al., 2006). Therefore, this research suggests that using an ECA will improve a consumer's overall purchasing experience. Additionally, ethical consumers were able to connect with other consumers whose values were in line with their own and striving to make purchasing decisions based on those values. Participants noted that it encouraged them to know that other consumers were purchasing environmentally and socially conscious products. As such, consumers, especially those interested in consuming ethically, might benefit from using ECAs by identifying with consumers who have like values.

Limitations

This research has limitations that relate to both the topic of this study and the methodology. With regard to the topic, ethical consumption is a broad subject that is studied in a wide variety of fields including: marketing, sociology, anthropology, political science, environmental psychology, and public policy. The goal of this research, namely the literature review, is to connect the ethical consumption literature with IS research. However, given the magnitude of literature on the topic of ethical consumption, I cannot assert that the literature review was exhaustive.

Another limitation of this study stems from the use of qualitative, self-reported data. My primary source of data is drawn from interviews with ECA users and their interpretation and memory of their ECA use and consequent behavior. As such, I did not collect non self-reported data and a discrepancy between reported and actual behavior may exist. Finally, the findings of this study are limited to interviews with participants who used one or more of the following ECAs: 2nd Vote, Buycott, Cruelty Free, Ethical Barcode, GoodGuide, Healthy Living App, and Seafood Watch. Thus the ability to generalize our findings to all ECAs is limited. However, the findings are generalizable within the study among the seven ECAs and to extant theory (A. S. Lee & Baskerville, 2003).

Recommendations for Future Research

The findings from study help to lay the groundwork for future research in the area of IS and ethical consumption. There are several aspects of ECAs which necessitate further research. One such area is investigating ways IS can encourage users to move through stages of change more efficiently. Also of importance are ways IS can prevent users from relapsing to previous stages. Although enabling ethical consumption is the primary focus of ECAs, ways to facilitate continual progress is essential ethical consumption since shopping is a continuous action embedded in consumers' everyday life.

Another area of future research might address the adoption and use of ECAs. Although a great deal of IS literature focuses on IT adoption (Davis, 1989; Venkatesh, Morris, Davis, & Davis, 2003; Venkatesh, Thong, & Xu, 2012), it is important to understand how ECA adoption may differ from other technologies and the role those differences play in impacting adoption of these apps. Additionally, research exploring the continued use of ECAs would shed light on how ECAs might encourage users to continue

utilizing the apps. The findings of this study show that users continued to use ECAs apps, some for over two years. However, app use significantly dropped off after the first six months. While a portion of this behavior is attributed to the fact that users already know products they like to purchase and do not need to evaluate new products, some might in fact be attributed to loss of interest and/or mindfulness of the app. Several ethical consumers in the study also discussed forgetting to use ECAs while shopping and expressed interest in wanting to use the app more frequently. Although lack of continued use is a known issue with mobile apps, more research is needed to provide insight into app user behavior (L. Chen, Meservy, & Gillenson, 2012).

Finally, an important topic for future research is testing the Model of IT Enabled Behavior Change in contexts other than shopping. Mobile apps are becoming widely used in the area of health and fitness with the aim of changing behavior (Bort-Roig, Gilson, Puig-Ribera, Contreras, & Trost, 2014; Conroy, Yang, & Maher, 2014). Research applying this model to wearable technology or mobile applications that support behavior change could further shed light on the ways technology can help consumers improve their life by eliminating unwanted behavior.

Concluding Remarks

Encouraging consumers to make socially and environmentally conscious consumption decisions has significant implications for the well-being of future generations (White and Simpson 2013). As consumers continue to join the "responsibility revolution" and strive to create a sustainable world, information technology will play a vital part in educating, facilitating, and encouraging these endeavors (Hollender, Breen, & Senge, 2010; Senge et al., 2008; Stengel, 2009). IS, in the form of ECAs, help consumers make

informed purchases by providing information on the environmental and social impact of products that are of interest to consumers. Moreover, this research explicates the role of IS in facilitating ethical consumption and behavior change in general. Finally, the work in this dissertation highlights the essential role of information and technology in helping individuals improve their well-being and the well-being of others.

APPENDICES

APPENDIX A

Interview Guides

Interview Guide for ECA Users

What do you look for in a product when you go shopping?

Where do you get information about your products?

Do you feel like an informed consumer?

Do you feel like you need to make any changes in your purchasing decisions? How so?

What started your interest in ethical consumption?

What ECA(s) do you use?

How long have you been using it?

How did you find out about it?

What were your expectations of the ECA?

How did the ECA meet or fall short of those expectations?

What features did you use?

How did you use the app?

How did the information impact your behavior?

What do you think the impact is of your purchasing decisions?

Did you trust information from the ECA?

How do you think the ECAs could be improved?

What app do you work on?

How would you describe the app?

What is/was your role in developing ECA?

How did you get involved with this work?

Why was the app developed?

What do you consider a success for the app?

How did you decide what features and functionality to include in the app?

Where does the information in the app come from?

How do consumers use the app?

What would change about the app?

What are future plans for the app?

What do you think consumers need from an app to make ethical choices?

Interview Guide for Ethical Consumption Group Organizers

What organization do you work with?

What is the mission of the organization?

How do you get involved with ethical consumption?

How do you define ethical consumption?

What do you think are the major issues preventing consumers from ethical consumption?

How does your organization working to overcome these issues?

Have you used ethical consumption apps?

In what ways do you think IS might help consumers with ethical consumption?

APPENDIX B

IRB Decision Letter

The Internal Review Board at Baylor University classified this study classified this research as Exempt from IRB Review. The decision letter from the Baylor University IRB was issued on September 22, 2016 and copy of this letter is inserted below.

BAYLOR
U N I V E R S I T Y

INSTITUTIONAL REVIEW BOARD – PROTECTION OF HUMAN SUBJECTS IN RESEARCH

NOTICE OF EXEMPTION FROM IRB REVIEW

Principal Investigator:	**Laurie Giddens**
Study Title:	**Information Tracability and Ethical Consumption**
IRB Reference #:	947228
Date of Determination:	09/22/2016
Exemption Category:	45 CFR 46.101(b)(4)

The above referenced human subjects research project has been determined to be EXEMPT from review by the Baylor University Institutional Review Board (IRB) according to federal regulation 45 CFR 46.101(b):

(4)   Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

The following documents were reviewed:
- IRB Application, submitted on 09/16/2016
- Protocol, dated 09/16/2016
- Consent Form, dated 09/16/2016

Per your protocol, you have already started recruitment. Please note for future reference that per federal regulation, recruitment prior to IRB review is not allowed. Any individuals you have already contacted about being in the research will need to agree again after reviewing the consent form. If you have collected any data from them, you will need to destroy that data and start over with those participants.

This exemption is limited to the activities described in the submitted materials. If the research is modified, you must contact this office to determine whether your research is still eligible for exemption prior to implementing the modifications.

If you have any questions, please contact Deborah Holland at (254) 710-1438 or Deborah_L_Holland@baylor.edu.

Sincerely,

Deborah L. Holland, JD, MPH
Assistant Vice Provost of Research
Director of Compliance

OFFICE OF THE VICE PROVOST FOR RESEARCH

One Bear Place #97310 • Waco, TX 76798-7310 • (254) 710-3708 • FAX (254) 710-7309 • http://www.baylor.edu/research/irb/

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APPENDIX C

ECA User Reviews

Sample of Buycott User Reviews

This is a phenomenal app to change your lifestyle and your awareness of what exactly your money is going towards. Please, if you join, contribute more information to the app. Do your research. The info more that users put in, the better this app works! Do your part

Open a whole new easy to use databank of info about all the food you eat

Kinda disappointed they beat me to the punch, but I'm stoked to see all of this support! Great work developers, this is how we change America for the better.

I have always wished for something like this to be around when I needed it. I am trying to buy products I believe in and this helps a whole lot.

Be ready to find out what you don't want to know about the foods you buy.

This is the easiest way I know, of feeling better about where I spend my money. Initially I didn't want to give up favorite brands, but making the world a better place, is far more gratifying.

Great app to keep you informed about how our dollars work against us.

STOP THE CORPORATE WAR MACHINE!!! DOWNLOAD THIS APP NOW!!

Buycott is very important when you don't want to eat poison that is put in our food. And boycott the corporations that are against the food labeling.

Sample of 2nd Vote User Reviews

Great app!! So excited to find something that can help me put my money into companies that are doing the right thing and aligned with my beliefs. I would suggest expanding the categories even more to include places like Golds Gym and Planet Fitness Etc. because they get a lot of money from us and a lot of people are unaware of what those places support too. I'll be sharing this app with everyone I know!

The best app if you simply invert the scale. Then you can know how to stay away from the extremists of the Humpty Dumpty Trumpty crowd, fascists and bigots and sexist, the lot of them. Thanks for this great, free service! I recommend it highly to all progressive people. Now requires registration with personal to use. Sketchy. And I just wasted 15 minutes of my life trying to figure out how to search for a company. Nope. Used to love it - now life's too short. Deleted.

I took time to download app to my phone, but then they want you to "register" and give up your email address. I'll delete the app and keep my privacy instead.

I used to Love this app! Since the update the search feature doesn't work properly and I find I have to close the app and reopen to go between company profiles.

This app needs to be used by everyone. Voting with our dollars is the best way to use the power we have as consumers. I don't want my money going to organizations that go against my beliefs and this app makes it much easier to keep that from happening. The app works well and has a nice user interface. I'd like to see it expanded even more with more companies and the ability to have local companies displayed based on my GPS location. I found an in-app donate button behind the three dots button at the lower right. We all need to donate and spread the word to everyone we know so the impact of our dollars can be felt by those throwing our money at causes that we believe are harming society as a whole.

Awesome way to weed out the left wing liberal nuts and support real true conservative companies. I'm going to be using this app with ever purchase from here on out.

Sample of Ethical Barcode User Reviews

Downloaded the app loving the idea but every item I've scanned comes back as an error reading including companies shown in the app preview. Wish it would be fixed and work because as a vegan I love the idea.

A great app that helps me make good decisions on what I want to purchase.

Good app... When it works. Whenever I open it anymore all I get is a blank white screen... It was an awesome app when I was able to use it though...

So handy to be able to just scan the barcode and be able to shop with a conscience!

Love the way it shows so many relevant certifications and ratings. And it has private companies, not just public. I scanned everything in my backpack that had a bar code and learned a lot.

Easy to use and measures what's important to me.

A longed-for resource that makes it easy to cut through all the bogus green-washing and make the ethical choice.
I love it! Makes me feel like I can make a difference, knowledge is power!

Love the idea. It's exhausting trying to balance cost and ethics and availability while shopping. This app does make it a little easier. It just seems like the database is very limited. After scanning the items from my last grocery trip I only found two that are rated by this app. I will definitely keep using it though in the hopes that the developers are continuously adding more and more.

<center>*Sample of GoodGuide User Reviews*</center>

Heavily sponsored, zero truth. Please do not get or trust this app.

Very misleading app. Info is not true. Many items have high ratings & are actually NOT TRUE. False information is putting your health at risk. App should be banned.

If you care about animal testing, this app doesn't address it. Furthermore, it appears their idea of what's safe and what's not is based on FDA guidelines, which some of us don't trust. Sodium laurel sulfate, petrolatum, and artificial colors are ok in personal care products?

Works wonderfully. I'm so thankful something like this exists, based on actual scientific research and not some crazy person's blog recommendations. This app is indispensable for anyone who wants to understand the least toxic products to use.

This app was awesome, and should be great, but the product info is so outdated and most of my usual purchases aren't even on any of the lists. Please come back to work on this.
I can't believe most of these ratings. It seems like the rating system is opposite, because credible natural companies rate noticeably lower than known unhealthy companies. They have obviously been paid off and have no integrity.

I love that it gives alternative products. I only wish it would show pricing and the barcode scan is finicky. Otherwise it's awesome! Thank you.

Each time I type it freezes.

<center>*Sample of Healthy Living App User Reviews*</center>

I love the concept and am a big supporter of EWG but this app does not meet my expectations. The majority of times that I try to use it, it does not have the product in the database, and I am not scanning obscure brands. I am using it for mainstream brands in a regular supermarket, and I am disappointed by how useless it has been. Please use some of that money I donate to make this a truly helpful app!
Love this app! It's helping me better decisions for the health of my family and the environment. Def needs to add more products to their database, but I can see how that

would take some time. There are so many products out there! I will be hanging on to this app because I have a feeling it will only get better from here.

The app has great information but I don't have a way to save products or find product history.

The scanner doesn't work. Many products not listed. Need to add info about the ingredients and why they are categorized as harmful. Great idea but needs work.

Every item I scan returns "Sorry! Product not found at this moment." I tried scanning the barcodes for Babyganics sunscreen, Banana Boat sunscreen, and Softsoap hand soap. Search by item isn't working, same goes for category search. Please fix this app!

I love the concept of this app, but agree the database needs more products and the ability to submit products. Also, the search feature is terrible. You have to type the exact product name or nothing will show up...for example "Burt's Bees" will return nothing because I left out the apostrophe. Come on people, it's 2016.

I love this app! I use it all the time. One suggestion is that I wish the search bar was more forgiving. If you misspell a product by even just one letter or an incorrect spacing, zero results will show up. Please update the search bar to make this app even easier to use! :D

The amount of products listed are slim, but when a product does come up its very helpful.

Sample of Seafood Watch User Reviews

This app helped me with my Marine Biology class, essential for fish research. Specifically used to interview restaurants about the fish they sell.

I refuse to use this app until they change the location requirement to only while using the app, not always. There is no need to always require our location.

Love this app. I used to sift through searches for good info on sustainable fish, and often ended up on the Monterrey Bay Aquarium site anyway! This is so much more user friendly and is awesome for a quick check at the store. Trustworthy and knowledgeable resource for the concerned consumer!

Please remove the splash screen that appears when you open the app. I'm generally in a hurry when I need to quickly look up seafood and that screen takes FOREVER and there's no way to skip it.
This app is a great way to not only help the environment, but also stay healthy. A lot of farmed fish can carry serious disease issues and I'm glad that this app addresses that. It also gives me peace of mind when shopping.

Extremely skeptical on their ratings. Cobia from Panama has a FIFO ratio (fish-in-to-fish-out) of 5? Unlikely, that business world be financially unsustainable. Also dislike green rating for cobia in RAS. Being an aquaculture researcher I do not know of any commercial RAS production of cobia. For me to take these ratings seriously it would need scientific sources or evidence cited to validate their statements.

If you're concerned about your impact on seafood, this app is wonderful. My only critiques: it's still not updated for the 6 and 6+ screen sizes, causing the old keyboard to be used, and there's a splash animation that can't be skipped before you can search the database every time the app is evicted from memory.

Love this! Use it in the market and at restaurants to pick the best sustainable option'
Why can't I select the wild filter for fish such as salmon? Other than that it's pretty good.

I used the wallet-sized printed version forever, then I switched to the app. I consider this one of my vital apps as I try to make certain I'm making the best seafood choices. But now, like other reviewers, the app is stuck "updating."

Works fine for me. Great help when shopping and dining.

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