Ethical consumption applications as failed market innovations: exploring consumer (non) acceptance of ‘quasi’ market devices

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Abstract
In this paper, I conceptualise ethical consumption applications (ECAs) as market innovations inflected in processes of configuring market actors and market (re)framings. The introduction of ECAs through the work of civil society is not only about changing frames of market exchange, but also work in the register of making ‘good consumers’ and consumers as ‘agents of change’ and moralising markets. Thus, a more accurate concept for these devices is suggested: ‘quasi’ market devices. The main aim of this paper is to analyse how consumers attached to and resisted use of ECAs designed to assist in product choices and shape responsible everyday practices. Based on qualitative fieldwork in Sweden, the article applies a methodology grounded in Science and Technology-inspired market studies in combination with Consumer Culture Theory’s (CCT) interest in identity work and sense-making associated with technology consumption. Although available at the time of the empirical data collection period of the study, all three apps were off the market during the analytic work of this paper; a major argument for focusing on barriers to acceptance of the apps and trying to conceptualise how such non-acceptance can be understood.

Digitalisation of ethical consumerism
Ethical consumerism, alternatively named ethical consumption, ethical purchasing, moral purchasing, ethical sourcing, ethical shopping, or green consumerism is a type of consumer activism conventionally based on the concept of dollar voting. It is practised through ‘positive buying’ in that ethical products, or ‘moral boycott,’ that is negative purchasing and company-based purchasing are favoured (Giesler and Veresiu 2014). Not only does an increased number of mobile application (app) technologies seem to make ethical consumption increasingly accessible, apps such as Good Guide, Good On You, iRecycle and Joule Bug equip users with status updates, certifications, automatic push notices, ranking and valuation systems, competition and self-profiling programmes, virtual feedback and gratification through rewards or functions with labels and categorised information that qualify products and practices as sustainable, climate friendly, or in more general terms, ‘ethical.’ The rise of smartphones and mobile apps is of major importance to multiple recent innovations in sustainable consumption. This includes, for example, non-profit ride-sharing schemes (Skjutsgruppen), real-time transparency information about products (Buycott app), clothes-swopping systems

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(TradeMade), ethical fashion brand rankings available through online recommendation sites (Good On You), carbon calculators (Commute Greener), and GPS-based systems of product information (Fairtrade). Critics of app-equipped ethical consumerism tend to focus on their asymmetrical information provision systems, where developers, innovators, civil society organisations, and scientists function as expert advisors for purchases and other activities. Users or consumers are positioned as passive receivers of content and ethical consumerism as a programme for product purchases.

Previous research has revealed how the promotion of ‘food citizenship’ through Good Guide, a system that ranks and grades products according to ethical criteria (Lyon 2014), relies on opaque metrics and an authoritative design, supplying norms that reproduce ethical consumerism as an individual act. Similarly, a study of the Buycott app (Eli 2016) argues that the app’s design and the particular discursive and practical construction of ethical consumerism within the system shape representations of individual forms of ethical consumerism rather than supporting collective projects through interacting with the app (Eli 2016). Bringing issues of ethical consumption closer to the examination of information and communication technologies (ICTs), Gabriel and Lang (2015) argue that ICT has the potential to blur the definitional boundaries between consumers and producers and create new types of ‘ consuming work’ (2015, p. 214), whereby acts of consumption expand to include not only procuring products but also generating and sharing product-related data. In implicating data sharing as a central act of consumption, ICTs are thus positioned to alter consumption-related socialities, across both mundane and activist spaces (cf. Sörum and Fuentes 2017). Thus, recent research proposes, for ethical consumer networks, that ICTs can be potentially transformative, mediating the networks’ messages to broader audiences, changing how messages are communicated, activism is conceptualised and identities are positioned (Lekakis 2014, cf. Chatzidakis and Mitussis 2007). However, as Lekakis (2014) reveals in her article on ICT use in the fair trade movement, empirical analysis of the roles of digital devices in alternative consumer networks is necessary to ground these potentials in practice. In particular, research on app-equipped ethical consumption needs to account for consumers’ attachments to, interpretations of and scepticism related to devices and encounters with the technology of apps.

This paper argues that there is a lack of understanding not only of the rapid pace of developments in apps and their technical functionalities (see Hansson 2017 for an exception), but also gaps in conceptualisation of the nature of apps and their effects as part of market framings, market actor configurations and consumer attachments to these devices (cf. Fuentes and Sörum 2018 for an exception). So far, the bulk of empirical research on the impacts of the ethical consumption phenomenon comes from the marketing departments of business schools. These researchers investigate the effect of, for example, corporate social responsibility (CSR) information, certifications and labels on consumers’ intent to purchase and willingness to buy products produced ethically (Egels-Zandén and Hansson 2016). Marketing researchers have established that what consumers know about a company can influence their beliefs and attitudes regarding new products manufactured by that company, and there is a market for ethical goods. However, according to several consumer studies, an elusive ‘value-action gap’ remains, as consumers said they would pay for ethical goods but continued to purchase unethical goods (Chatzidakis et al. 2007). Uusitalo and Oksanen (2004) stated: ‘the most important barriers to ethical consumerism appear to be difficulties in obtaining information’ (2004, p. 220). On the contrary, Boulstridge and Carrigan (2000) found that no participants reported a lack of information as a barrier to ethical consumption. Another brand of literature accentuates how many see ethical consumption as an outlet for the expression of personal values and identity (Wilk 2001). Ethical consumption has also been theorised as a mechanism to construct an ethical life or self where, for example, labelled products can act as important identity markers and become part of consumers’ ’extended selves’ (Barnett 2005). Expanding on this discourse, Moraes et al. (2012) argue that consumers are influenced by social norms and cultural values, which reprimand or encourage certain behavioural choices (including buying ethical goods) as well as shared emotions and expected reactions by relevant others. So far, none of these approaches has conceptualised ethical consumption through the lens of market innovation. This paper argues that applying a
market innovation approach to ECAs will provide theoretical development in this research field by engaging with analysis of how specific versions of ethical or moral markets are framed through the introduction of new digital devices, how ECAs seek to configure or equip consumers (add capacities, identity categories, autonomy), and how consumers accept or remain sceptical about their propositions. The aim of the paper is twofold: first, to make sense of the ways civil society actors seek innovation through the introduction of digital devices and efforts of agencing ethical consumers, and second, to analyse how consumers attached to and resisted the use of ECAs.

**Analysing market innovation through agencing efforts, market (re)framings and values of technology consumption**

The *Encyclopedia of Consumer Culture* defines ethical consumption as:

> The use of the consumer market for political or ethical purposes ... involv[ing] considerations that go beyond the traditional economic perspective of the relationship between the price and material quality of consumer goods. It includes such matters as human and workers' rights, gender equality, use of nature and natural resources, animal treatment, relationships between the developed and developing world (so-called North and South dilemmas), and other related topics that concern values about the politics behind products and the politics of consumption (Micheletti 2011).

This definition touches on two key factors: ethical consumption is understood as using the market to create change, and ethical consumption reflects consumers’ values and politics. On the one hand, this definition of ethical consumption fits with Callon’s (2007) discussion of the relationship between markets and ‘matters of concern’ that may originate in market frameworks and the ‘excesses’ that affect individuals or groups (‘orphans’ in Callon’s terminology) in unexpected ways: for example, the inclusion of environmental norms in products such as eco cars, which previously eluded the market framework (see Kjellberg and Helgesson 2010). Such ‘excesses’ led to promotion of the incursion of the environmental sphere into the economic sphere. The dynamic that develops between particular products as ‘matters of concern’ (in this case, eco cars) and activist groups (Greenpeace, for example) resulted in a market innovation, partly because it made possible the recognition and expression of new identities, particularly for consumers (eco car consumers) i.e. representing users’ (and other stakeholders’) interests in news through new products (cf. the use of markets for political or ethical purposes). On the other hand, Callon’s notion of markets is different from the definition of ethical consumption presented above in that neither the market nor the consumer is conceptualised as already there, but rather the outcome of dynamic ‘market work’ (cf. Chessel and Dubuisson-Quellier 2018). Thus, moral markets, ethical products and ethical consumers are the outcomes of on-going market work (see Reijonen and Tryggestad 2012).

Conventionally, innovation research has tended to be technology-focused while recognising innovation as having a market (and thus a consumption) dimension (Kjellberg et al. 2014, Giesler 2012). Recently, Kjellberg et al. (2014) argued that the ‘relationship between innovation and markets is understood as either embedding an innovation in existing market structures or creating new markets from scratch, through entrepreneurial efforts including the enrolment of supportive networks’ (Kjellberg et al. 2014, p. 5). An alternative conceptualising of market innovation is offered by research on market devices (Callon et al. 2007) and market framing (Callon 2007, Milyaeva and Neyland 2016) that builds on recent work inspired by Science and Technology Studies (STS) and the attention given to market-shaping processes (Araujo et al. 2008). These lines of research highlight the variety of strategies aimed at altering markets through the role of agencing efforts and market (re)framings (Kjellberg et al. 2014, p. 5, Milyaeva and Neyland 2016). In this approach, markets are not stable entities already existing ‘out there,’ pre-existing markets consisting of actual or potential customers as often assumed in more conventional marketing literature. Rather, markets are seen as on-going processes, and the specific set-up of market interfaces and market framings are not given or stable.
Assuming that markets are not dogmatically given from the outset, this article call into question that there is a single way of framing markets. Instead, this contribution submits that iterative (re)framing represents aspects crucial to the functioning of markets vis à vis one another (Milyaeva and Neyland 2016). Moreover, given the heterogeneity of actors involved in the configurations of markets – including, for example, policy makers, market(ing) professionals, investors, technology, social movement organisations, entrepreneurs and consumers – it is likely that multiple versions or framings will emerge (Kjellberg and Helgesson 2010). Firstly, innovation can be considered important for this paper as social movement organisations (SMOs) and ethical app developers position themselves as both critics of current conventional product markets and seek to employ innovation as means to reimagine more ecological, fair and transparent future markets and consumer choice through the introduction of technical and software devices, alternative product recommendations or valuation and selection criteria, inscribed identity and symbolic values, and functional utilitarian resources. New market devices are related to market innovations in the sense of altering of market behaviour. Central here is the argument that market actors’ preferences are being exploited and therefore also recognised as possible to influence through incentives. Secondly, a growing body of research questions the constitution of market agents (see Kjellberg 2008, p. 260, Callon 2008). For example, studies by Onyas and Ryan (2015), on the development of sustainable coffee markets, focus on the processes of bringing about market change through agencing efforts in market innovation processes, i.e. the specific sociotechnical arrangement that generates specific forms of actions. In their study, they do not focus on interactions between sellers, buyers and goods, but on versions of these entities that are brought into being, and in the process frame two versions of the coffee market: a sustainable market in parallel to the mainstream coffee market. Further, research on market construction has led to numerous studies focused on the actors who play the role of market intermediaries, but also to work on many market devices, like product labels, advertisements, consumer reports, consumer guides and recommendation systems (Karpik 2011, Dubuisson-Quellier 2013, Mallard 2000, Beuscart and Mellet 2013, Beuscart et al. 2016). Developing this type of ‘professional equipment’ of economic cognition draws our attention to the importance of indirect relationships inherent to market attachment and the prominent role of intermediary objects, artefacts and technical devices involved in market-shaping activities.

Among all possible effects, those that potentially affect consumers deserve special attention since they lead to the extension of the professional – or in other cases, expert activist or social movement organizations’ – vision of the market to the public, and thereby necessitate our consideration of the consequences of such an extension. In this respect, the study of the various devices aimed at channeling consumers’ choices is of importance as well as their shaping of user categories, practices and cultural identities (Karpik 2011). A good example is that of consumer press, which worked to ‘professionalise’ consumers’ judgement itself (Mallard 2000) and in the process, agencing expert consumers. In a different context, Milyaeva and Neyland (2016) show how start-ups in the online data sector introduce new services that equip consumers regarding their data, emphasising transparency, control and knowledge, and through introducing technological innovations recast terms of market exchange so users had some say in what happened to their data. Related to this article, the introduction of consumer guides, standards, product labels, and certifications has been central to ethical consumption as a project and innovative force within markets (Duboisson-Quellier 2013). Thus, ethical consumption cannot be limited to consumers and their choices or values but includes a variety of systems, actors and devices for evaluation, sociotechnical assemblages for configuring moral markets, and ethical consumer actions. In her study of how social movement organizations (SMOs) directly work to shape consumer preferences by urging them to introduce eco-friendliness into their valuation of products through provision of choice devices, Duboisson-Quellier (2013) convincingly shows how SMOs can be understood as both a context of cultural building (social identities, norms, shared values) and contribute to creating new identities that may generate economic activities. Thus, not only those actors conventionally conceptualised as market agents work to shape markets and consumers by introducing new market devices but also SMOs and other independent actors.
Importantly, as introduction of ECAs concerns (re)framings of market exchange as well as making up ‘good consumers’ (citizen-consumers) and consumers as ‘agents of change,’ I propose the concept of ‘quasi’ market devices for this category of devices. Further, in recent market innovation theorisations, users and consumers are considered active partners in creating value (Kjellberg et al. 2014, p. 6). Consumer engagement is crucial, as consumers are key players in the innovation process. Consumer acceptance is central to every innovation, digital or other. Moreover, mechanisms of consumer engagement and acceptance need to be part of the analytical set-up. Digital devices must offer something new and exciting to (potential) users (e.g. better function, usability, experiential value, identity resources, differentiation elements) to gain acceptance. Although there exists a rich body of research about a plurality of choice prescribers and other market devices, this literature often lacks two important components for analysing ECAs. First, there is seldom any discussion about the particular material artefacts through which choice information is disseminated, and, secondly, the mechanisms of consumer acceptance or resistance towards devices are often missing from recent accounts of similar devices (Lekakis 2014, Hansson 2017, Eli 2016).

From the consumer point of view, interaction with device content cannot be separated from its material as well as cultural or symbolic dimensions (Kozinets 2008, Belk 2014). It is impossible to consume specific market devices (i.e. digital applications) without access to technologies and their necessarily wider nets of cultural significance. As technology penetrates deeper into people’s lives, the study of technology expands from adoption issues to include larger concerns. For example, Kozinets (2008) remarks:

> Although we know much about the general macrosocial and cultural conditions surrounding technology consumption, we discover a surprising gap in our knowledge about the nature and processes by which these conditions form into ideologies and how these ideologies influence consumers’ thoughts, narratives, and actions regarding technology (p. 865).

Based on extensive interviews with technology users, Kozinets (2008) concludes that the ideologies of technology have become interwoven with almost every realm of human endeavor and imagination: mundane and lofty, work and play, sex and food, progress and improvement, communication and pleasure … Indeed, most solutions to social and environmental problems now involve adaptations of technology … (p. 879).

Technologies, as much CCT-inspired research has shown, are not neutral instrumental means for accessing information but are also associated with specific meanings that have an impact on their potential for acceptance (Giesler 2012). As Bajde (2014) argues,

> CCT takes note of the cultural forces and dynamics in which technology consumption is entangled. It enables people to articulate the cultural processes (ideological, mythic, ritualistic, etc.) through which cultural meanings become granted to or denied to technological innovations, thus shaping the value of technologies as cultural resources sustaining consumer identities (Bajde 2014, p. 10).

Market innovations like ethical apps attaching themselves to consumers, is conditional upon consumers’ ability to integrate ECAs into their identity-construction process by appropriation and identifying with a social group (social identity). I follow Belk (1988; 2014) here and argue that appropriation is defined as the device that will help transform an object into a means for self-expression and integrate it into one’s extended self, i.e. support of self-expression (Belk 1988). As Kjellberg (2008) notes, STS suggests that a conceptualisation of the extended self that is rooted in the multiple meaning of an object to a single individual is problematic. The incorporation of objects into the self is a changing and evolving phenomenon and (often) involves other people (cf. Belk 2014). Furthermore, STS tend to focus on the behavioural outcomes of an evolving network of people and things. However, objects are both agents and affordances we can use, elements of our environment used to remember, cue behaviour and express our identity (Belk 2014, p. 1109). Belk (2014) argues‘[…] the mediated technological portion of our self (e.g. as mediated by our wristwatch, smart phone, eyeglasses or digital appointment calendar) is becoming increasingly invisible and
taken as a ‘natural’ part of self (2014, p. 1110). I propose that is a good reason for studying object-human relations in phases of novel introduction of elements (i.e. before they become ‘naturalised’). Also, identity work at the group level needs be considered because it facilitates a sense of normality and thus legitimation of innovation (Belk 2014). In using CCT to understand app acceptance, an important aspect is the value apps deliver. This paper focuses on the potential value consumers construct through consumption of apps, particularly their reluctance to construct value. CCT argues that consumption is influenced by functional value, which is an important attribute of apps and smartphones. Functional value is defined here as ‘the perceived utility acquired from an alternative’s capacity for functional, utilitarian or physical performance’ (Payne and Holt 2001, p. 168). However, while CCT emphasises the role of consumption in constructing consumer identities, it also recognises the importance of symbolic or cultural value and thus provides conceptual apparatus to explore cultural preferences for app and smartphone use. Symbolic value is defined here as ‘positive consumption meanings that are attached to self and/or communicated to others’ (Rintamäki et al. 2007, p. 629).

Sampling and method

For this study, I chose three apps that were the most successful on the Swedish market in this field: the Green Guide app, launched by the Swedish Society for Nature Conservation (SSNC); the Fairtrade app, developed by Fairtrade Sweden; and the Shopgun app, developed by the Swedish economic association Consumentor. Fairtrade Sweden works to increase the supply of and demand for Fairtrade labelled products to enable producers to improve their working and living conditions (Fairtrade 2014); the SSNC is Sweden’s largest NGO focusing on environmental issues broader than product markets (Naturskyddsföreningen 2014); Consumentor promoted its app as a tool for sustainable consumption (Consumentor 2014). Green Guide was launched in 2010 and, from the three apps studied, it was the most popular, with more than 400 ratings on Apptrace and an average of 4.0 out of five possible stars. Green Guide was ranked number one in the lifestyle apps category around the time of its launch in Sweden, providing evidence of its initial popularity. The Fairtrade app was launched in 2012 and collected a small number of ratings but a high score, 4.5/5 on Apptrace. Based on interview evidence with developers, at the time of our study, approximately 10,000 people had downloaded the Fairtrade app (AppStore and Google Play combined). The Shopgun app was launched in 2013, and at the time of the study had over 10,000 downloads. The economy of the app’s projects was similar to many start-ups in the sense that there were no explicit aims or expectations in terms of the number of downloads or ideas about making profits from the apps more than maybe ‘breaking even’ in the long run.

Although available at the time of the empirical data collection period of the study, all three apps were off the market during the analytic work with this paper, a major argument for focusing of scepticism and resistance related to the apps and trying to conceptualise how such non-acceptance can be understood. As seemingly closed technical systems, digital devices pose new methodological challenges for sociocultural research on ethical consumer choice. Following the theoretical framework of market innovation as presented above, and to disclose the role of app products in SMOs’ efforts to alter and frame existing and future market relations, we conducted interviews with individuals responsible for development, management and promotion of the apps. A programmer responsible for developing the Shopgun app, a web director at Fairtrade Sweden, and the director of eco-labelling and green consumption at the SSNC were interviewed. The interviews were conducted at the informants’ offices between May 2013 and January 2014. They lasted between 75 and 120 min. All interviews were recorded and transcribed in full. Observations of how the apps were marketed online were also conducted through screenshots of company webpages and blogs. To complement developer interviews, we conducted observations of ‘professional’ consumers or ethical consumption experts online. For this part of the data collection, we systematically conducted searches using words like Grön Guide, Shopgun and Fairtrade app and attempted to collect data on
'spokespersons' as found on, for example, consumer blogs, how various spokespersons perceived and framed the apps, their content and functions. This part of the data collection procedure was informed by the theoretical argument presented above that markets are framed by a variety of actors in diverse ways which therefore necessitates empirical research to move beyond familiar framings of developers or organisation promoters to observe what other complementary or conflicting framings were available.

To understand how the apps were perceived, we conducted a series of user interviews. The criteria used to recruit informants were informants self-identified as committed consumers, were frequent smartphone users and lived in the Gothenburg area. Eleven women and seven men were recruited to test the apps. Our idea was that rather than studying existing users of the apps – although some of them had tried them prior to the study – we got in touch with people who were willing to try the apps for two weeks and be interviewed afterwards. The interviews were carried out at our office. They lasted between 45 and 90 min and were conducted in two phases. First, we asked about the informants’ consumption practices in general and how they related to sustainability. This allowed us to understand the actual or potential fit of ethical app use in their everyday life. Next, we arranged ‘digital walkthroughs’; we went through the apps with the informants using a projected screen, talking about the participants’ use, knowledge and opinions of the apps and their various functions. Digital technology was employed as a research tool to generate information that would otherwise be difficult to obtain. The informants were purposely selected based on their commitment to ethical consumption rather than, for example, their profession. This procedure ensured that the importance of the technology dimension was not overestimated but well covered.

The sampling criteria for apps were based on the aim of studying apps with different digital functions ranging from conventional digitisation of analogue resources (from, for example, a consumer guide converted to digital information) to native digital methods like profiling systems, synthetic choice advice based on algorithms and affordances for users to co-produce contents of the apps. Our intention was not to compare the apps but to collect data from perceptions of a variety of software and hardware objects within the wider field of ethical smartphone apps. The sample contained people of different ages (between 20 and 50). The majority were in their 20s, and although the sample contains informants with differing backgrounds, educational levels and occupations, many had university degrees. This convergence among participants allows us some level of generalisations on existing ethical commitments, identity and practices. Following Markkula and Moisander (2012), we assume that this interview material provided us with access to the broader, culturally shared meanings and context in which the interviewees operate. Consequently, our analysis can be viewed as illustrative of the social realities consumers face in contemporary, advanced market-mediated societies. Such schemes regulate which practices are to be understood as appropriate and desirable in particular contexts and situations, thus privileging and prioritising some practices and denying or resisting others, which results in particular concrete and symbolic effects on the conditions of possibility for social action in different contexts. Even though gender discrepancies between participants were not specifically sought, they can be said to reflect differences that can be traced to the general population, as previous studies disclose a larger interest for ethical consumption among women in Sweden (Grankvist 2012).

Lastly, we carried out extensive app observations, going through the apps systematically and collecting screenshots and videos to document these observations. The objective was to disclose a device’s intended purpose, embedded cultural meanings and implied ideal users and uses, and how they managed to do this (technical issues, but also discursive). This technique produced hundreds of screenshots and about 20 screen videos and complemented the qualitative interviews for disclosing suggested couplings with technology (Light et al. 2016). The approach allowed for both participant-led platform explorations and examining what the app contributed to users’ interactions with it (Light et al. 2016, p. 888). Use of this ‘experimentalist’ set-up was well suited in this case since it allowed a kind of experimentation on the one hand and the immediate confrontation of multiple experiences and points of view on the other, and – a test of innovative situations (Muniesa 2014).
This approach, then, was not ‘constative.’ These behaviours might not previously exist, but the purpose of this set-up was not to unveil existing facts and mechanisms. Instead, applying a ‘provocative’ methodological set-up based on the ontological premises of STS defined as ‘performative,’ the method was also, by necessity, ‘performative’ and aimed at enacting rather than studying its subject matter (Muniesa 2014). In that sense, we define the method of data collection as not conventionally applied to uncover some unacknowledged need among users, but attentive to a study of heterogeneous (consumer) practices [questions were asked about for example shopping practices, supply operations, information sharing, social media use, and other mundane consumer practices].

As a second feature, the method included something akin to an imagined future scenario. This phase allowed for a kind of imagining of an app-user coalition existing in the future. This method then allowed us to study tangible practices with a rather intangible purpose. This future-oriented approach is in contrast to most of the user studies within STS. Most studies of technology are either focused on technologies in the making (e.g. Latour 1987) or current use (e.g. Oudshoorn and Pinch 2003). Few STS projects relate user studies to a technological system or actor (i.e. the unit of app consumer), including its users that might be realised at some unspecified point. This is where the unique ‘compositionist’ approach of the project lies; the researcher faced a challenge to create some sort of ‘unusually long’ link between current practices and future activity with potentially strong contributions to sustainable consumption. In the analysis, less emphasis was put on the stable aspects of existing ethical consumer practice among participators – that would arguably last into the future – prompting the researcher to highlight issues developers and promoters of ethical apps would have to consider in the sense of stated scepticism and resistance. Further arguments for this unconventional set-up were collected from media studies (Courtois and Timmermans 2018) focused on experience sampling of social and psychological effects that technology exposure brings about in its users. Whereas longitudinal self-reported data sets have been shown to be notoriously inaccurate because respondents are unable to recall media behaviour and content exposure (de Vreese and Neijens 2016), the walk-through method overcomes these problems in collecting user actions, exposure and effects on digital apps, thus elevating some of the stated methodological limitations through probing recurrent experiences as close as possible to when they actually occur.

Three ethical consumption applications: mediating the market relationship and equipping consumer agency

The apps were different in terms of technical design and functions. The Green Guide app contained information about sustainable consumption and how to make environmentally conscious decisions. The app had functions like the ‘fish chooser,’ the ‘label chooser’ and the ‘recycler.’ Under these headings, broadly categorised information intended to allow for ethical consumer choice was presented. For example, if consumers wanted to buy environmentally friendly fish, they could use the fish chooser function to search for species of fish were recommended by the SSNC. Beyond purchasing information, the Green Guide also provided information and advice regarding mundane household practices and how these could be adjusted according to more sustainable criteria. In the parlance of the Green Guide, consumers could find advice on how to ‘detox’ a kitchen, reduce the use of vacuum cleaners, reduce the number of showers, decrease the amount of detergent for washing clothes, stop keeping electric appliances on standby, and recycle more products. The app applied a combination of science-based facts and judgements based on SSNCs’ more critical agenda towards consumption and consumer culture. Another feature in the app was the synthetic profiling system, where a user could use the app for attaining different positions and targets regarding commitment to ethical consumption. For example, users could select specific activities such as buying organic milk the next time they went shopping, and then pledge to carry out these activities through ticking a box in the interface. The activity would then be registered in an app-user’s profile that produced an image with levels of commitment towards becoming a ‘planet saver,’ the highest position. If a user used the system, he received a message from the app stating, for example: ‘Congratulations, you’re now an
eco-nerd! You’re contributing to a healthier planet, consuming fewer pesticides and, in addition, eating tastier food.’ Thus, besides working on an ascetic consumer model, the programme prescribed some hedonistic, symbolic and playful experiences (‘eating tastier food’), introducing game-like/competition features, and prescribing new consumer identities (see the ‘eco-nerd’ or ‘planet saver’ as indication of one’s commitment).

Finally, while interacting with the app, there was the opportunity for users to choose to share their achievements, including a score on how many pledges a user had contributed, through a link to Facebook and Twitter and thus include social identity value of app consumption through communicative and social networking action. This option, if carried out, was followed by a message ‘boast to your friends’ (i.e. an inscription for social status accomplishment) along with two buttons, one for Twitter and one for Facebook, for sharing achievements. This function prescribed socialised ethical consumers through sharing preferences with one’s network that allowed social identity value. The app was not only about mediating relationships with the commercial space but also about not purchasing (reducing, recycling, communication, not buying) and introduced distance from traditional market players’ ways of working for enticing consumers towards more purchases. In that sense, the app was similar to other ‘consumerist prescribers’ studied by Mallard (2007) and Aldridge (1994) that show how these devices work to rationalise consumers and implement distance between products, choice and transactions. It also introduced hedonistic, playful and symbolic values and experiences attached to ethical consumption that counter-balanced an overtly computational consumer category.

Shopgun was primarily a barcode-scanning app and designed for leading to purchase. The app associated product information with purchase advice from an expert panel that was part of the developers’ network. The recommendations from a variety of environmental organisations, consumer advocacy organisations and research experts (e.g. Fairtrade, the Swedish Consumer Association, the Swedish Food Administration, and the Swedish Board of Agriculture) organised product information available through the EAN database – e.g. brand, producer, ingredients. The Shopgun database contained, at the time of our study, around 60,000 products. Approximately 40,000 of these were associated with advice and informative texts. The app stored over 3,200 pieces of consumer advice. Upon scanning a product, the app produced an image of the product and its EAN code. Added to the product image, a ‘pie chart’ valuation scheme produced alternative consumer advice. It followed a typical three-colour traffic light system; green signified ‘go’ – it is okay to buy this product, yellow proposed a more cautious approach, and red signalled users to avoid the purchase. In that sense, it allowed consumers to match products in store and attach new qualities to them. The app competed with other merchandising media made available through retailers in that it resembled new criteria based on the standards and advice of the Shopgun app. Through clicking on the recommendations, users could obtain more information about the product, the producer, or the expert organisation behind the information. Individual settings for the app were possible, and a user could tell the app what issue (health, environment or ethics) to focus on. Thus, the app could work as a ‘self-nudge’ apparatus to keep consumers on the right track of the market relationship, i.e. empowering consumers or counter-working merchandising (Torma et al. 2018). This potential to add a digital device that reconfigured consumers’ choice architecture is something the apps had in common.

The Fairtrade app was a combination of a searchable database with Fairtrade-labelled products and a barcode scanning app where consumers could find more information about products. The app also included a function called ‘Fairtrade fika,’ a map function for finding the closest restaurant or café offering Fairtrade-labelled goods: coffee, chocolate, various foods and beverages, based on geo-localisation functions (GPS). For example, upon use, the phone’s GPS function generated a map in the app indicating, using a red ‘pin,’ the closest establishments selling Fairtrade coffee. The pins allowed users to click on them and read more about the café/restaurant and consumer reviews, if available. This feature also included a rating system of stars for the places mapped (ranging from one to five yellow stars for the top grade). The function allowed users to contribute content to the app through posting FT selling positions, provide information about cafés and Fairtrade
products and add a picture of the location. This feature was the only one that openly addressed a sense of risk-taking among the developers we interviewed.

The human factor allows for someone to add a restaurant in, for example, Arvidsjour [a town in the northern part of Sweden] that we don’t know about and is not selling any Fairtrade products. So that’s a risk, but then it’s always like that when you democratise a tool or let others influence the content. That’s an actual risk [...] we control the other parts.

(Fairtrade, interview)

For the most part, the apps were prescribing a closer engagement with the market rather than distancing consumers from it. However, this tendency was balanced through specific functions and software that prompted users to distance themselves from transactions due to, for example, negative recommendations. In that sense, following, for example, studies of recommendation systems, the apps contrasted themselves against economic fictions of price as summarising all available information about a product. Instead, they were closer to guides found within, for example, the restaurant industry where consumers rely on gourmet guides (Karpik 2011) or the influence of word of mouth and labels. App review features (Shopgun ranking system and the Fairtrade map) constituted an innovative, calculative agency and allowed a combination of personal judgement devices (organising people’s preferences) and impersonal devices (synthetically calculating a unique ranking of products and restaurants). There was also a distinction between ‘expert’ information where consumers trust the expertise of a qualified network and reviews based on impersonal techniques of objectification of qualities, such as found in the scientific health information in Shopgun based on applied techniques. Interestingly, the apps not only qualified products but also commercial spaces (see the Fairtrade map) according to alternative, crowd-sourced rankings – something that makes them different from product labels, guides, consumer magazines or commercial merchandising within this field, and similar to restaurant reviews (Karpik 2011).

How app technologies featured in market framings

The developers of the applications relied on the idea that technology could help consumers make better informed and ethical choices, but also through associating the consumption of app content and functions with specific ideas pertaining to how their use would bring about social change in the sense of dynamic markets. Developers of the apps appeared to act as critics of conventional product markets (in terms of, for example, asymmetrical relations regarding information, inaccessible knowledge of the country of origin, lack of transparency regarding conditions of production). Thus, these app-promoting actors were also seeking to constitute a change and transform this situation, for example, a change in terms between producers and consumers, a transformation of the basis for market framing. Fairtrade Sweden described the focus for the app in the following manner:

How does one get Fairtrade into consumers’ everyday life when they stand in front of the shelf in-store and choose correct [products]? [...] I think it can give a sense of consumer power or empowerment, to know that I can actually check up on this product. I can check the country of origin, what the terms and conditions of production are. The power aspect of it is important, I think. I mean, except for the actual purchase, the feeling or weight added to having control over what you buy. […] It’s like you are part of the chain and not just a spectator.

(Fairtrade, interview)

The possibility of FT becoming accessible in a portable format was accentuated along with providing much information about FT, the association and certification. For FT, it was important to note that supporting FT means something. It is not a traditional product company; it does not market or suggest that consumers buy specific products, but rather focuses on labelling, being trustworthy and separating itself from retailers and merchandisers (FT interview). The opportunity to remind consumers on the go was made possible through digitalising information otherwise centralised to
stationary websites, product labels or traditional versions of consumer guides. Ubiquitous information along with a connected consumer equipped (via the app) with a closer connection to producers (made available through the information, videos and functions of scanning products that linked users to producers, i.e. ‘producer stories’) were mentioned as important features. Promoters not only partook in a market reframing but also materially equipping consumers with new capacities and autonomy, a form of agencing effort directed at regular consumers.

The excerpt shows that Fairtrade Sweden imagined consumers would use the app while in the store and on the go through shifting their attention from regular products to the ‘right’ ones, the ethically labelled products, and obtain more and better information than what is already in place through, for example, labels or packaging. The effect is a moral framing of the market that splits into two parallel market framings. As Hansson (2017) details in her study of the FT app, it might enter into competition with brands and retailers, as digitalised and mobile information acts to mediate the consumer experience with the market. Change in the market would come about through more certified products being purchased and the possibility for consumers and producers to meet (‘producer stories’), through the aid of ubiquitous and smart moral technologies used by consumers on the go, increasing the market size of FT-labelled goods. Not only scientific or market product information enabled a different market relationship but also ‘windows’ of solidarity and care for distant others while inside the store was proposed to commit consumers to Fairtrade ethics (cf. Neyland and Simakova 2009, p. 783). Similar but different narratives were collected at the other app developers’ websites. For example, the SSNC website framed the Green Guide app in the following ways:

… think it should be easy to choose correctly – and who likes the idea of a green world to leave behind to the grandchildren

(Naturskyddsföreningen, Nov 3, 2014).

Enhance your everyday life with green thinking! Here you’ll find the simplest tips and wisest advice for those wanting to live an ecosmart life

(www.naturskyddsforeningen.se Nov 7, 2014).

In these examples, we can detect how the assemblages of NGOs and apps, of course, are not neutral but, following Callon’s work on market framings (2007), work to establish specific boundaries between entities included and excluded from the new market framing (see also above about FT market framing). Similar to the way in which Callon describes how framing works as a ‘[…] powerful mechanisms of exclusion, for to frame means to select, to sever links’ (Callon 2007, p. 140), we can see how apps form part of reframing those entities or ‘orphans’ (a green world, future grandchildren, ecology) previously left outside of market assemblages. Thus ‘orphans,’ represented in the framing of apps’ potential contributions to better informed product choice, were engaged in strategies of construction of worlds where both grandchildren and the earth itself could strive. For the app developers, strategies of inclusion involved such a reframing of the terms of market action through how they directed their products (the apps) in the sense of disclosing product information and environmental performance, a new framing of relations with the user placed in a position of knowledge and control in relation to consumption effects as well as equipped convenient product choice. However, in interviews, they developed their version of the app further and complicated an all-too-optimistic idea of its rapid diffusion due to potentially unrealistic consumer ideals.

The thinking behind this is that there is a force in being upset over something or that you want to get away from something, but to translate this you have to show concrete alternatives that obviously can be quite symbolic. I mean you can’t save the climate through an individual action in a store, but you get to bring it back to the level where it becomes understandable and creates participation …

(Green Guide, interview)
On the first board meeting, everyone sat with their computers and talked about it, how good everything would be and how people would demand it, and then they asked, “How many of you do sustainability research before buying your computer”? (laugh), and no one raised their hands. I mean, these are people with degrees in environmental science, and not even on that level do they do information search, so how are they thinking about consumers searching…? What is it that makes people seeking information when they are inside a store and therefore would need the app? There’s no one with a consumer perspective, they are all on the supply side, and that mirrors how they think. (Green Guide, interview)

In promoters’ discourse, ease-of-use, problem-solving, and convenience (find the simplest advice) were associated with app technology framed through the notion of complexity reduction but also driven by an expectation of participation. Obviously, actors like SNNC and Green Guide tried to reframe market relations through emphasising knowledge (information search) as central for rethinking consumer product choice and their efforts of agencing future green consumers through their apps. These meanings were tied to ideas of environmental performance related to sustainability for the next generation. Choosing to buy ethically and through engaging with the app would entail a change from markets framed as unsustainable. Although there was a sting of critical self-reflection in the interview about its rapid transmission, there were mainly optimistic framings. Aldridge (1994), who has characterised consumption patterns promoted by ‘consumerist prescribers,’ argues they promote a certain asceticism and thus are different from commercial devices that work to encourage consumption and lifestyles focused on hedonism. In developers’ discourse, the tendency to push sobriety, rationality and long-term thinking (promoted consumer capacities, agency and autonomy) through consumption was found in that Green Guide that directs consumers towards less wasteful, more thoughtful consumption patterns. It was not about total rejection of the market but ‘another’ market relationship built on consideration and correct choices based on environmental performance. Consumeritor, who promoted the Shopgun app, detailed another related version of market change through use of their app.

Your purchase choices make a difference, and together we have power to change! (Consumeritor 2014)

We show what’s behind the barcode and, by doing so, we enable informed consumer choice. We hope that, with time, this will lead to more green products on shelves, says Ola Thorsen, Chair of the Board of Consumeritor. (www.shopgun.se, 2014)

Consumeritor partly drew on a narrative with connotations from activist consumer movement market theories, arguing that individual consumers coming together have the power to change the market for the better by voting with their wallets. Through framing potential user identities as activists and game changers, Consumeritor empowered the app-equipped consumer through education by playing on the seductive power of promises to disclose new product information and forge the specific status of a consumer-citizen. At the same time, Consumeritor positioned itself as a kind of ‘researcher-reformer,’ thus disclosing how the work of market framing includes identity work on the part of developers. Both consumers and developers are enacted as active parts in morally framing consumption, but consumers are made consistent with the image of an agent of change responsible for their purchases and at the same time as a social group that can benefit from these changes (living in a future world of green products). Similar discourses were found within all three developer/owner repertoires. Thus, individual ethical purchase decisions were associated with the collective dimensions needed to introduce social change. Together with the images of more ethical product choice as part of introducing change in/of markets (framing a moral market), specific features of the apps were presented as normal ways of performing ethical consumption: equipped advice, product information categorised and organised for convenient application on the go and bar-code scanning, in combination emphasising knowledge, control and transparency as central for reimagining the inclusion of ethics through market innovation and consumer agencing. In the applications, opportunities were configured around the parties’ consent to act as ethical consumers according to specific sets of culturally meaningful activities and dispositions; active decision-

N. SORUM
maker, caring citizen, reflexive and rational consumer, collective and empowered consumer were conjured up through images of change value added through app innovation. From a CCT perspective, we see that in the context of fair and climate-smart consumption, respectively, Fairtrade Sweden, SSNC and Consumentor presented themselves as caring environmental and social protectors who save not only the planet by developing high-tech, cutting edge technologies but the overall condition for producers of consumer products. This supposedly includes teaching consumers how to use these technologies to reduce their climate and wider human impact, a move that draws on a ‘techtopian’ cultural discourse (social progress related to technology) for legitimising purposes (Kozinets 2008).

**Ethical consumption apps on social media platforms: a moral community equipped with smart tools**

To complement the framings of the device suggested by developers and promoters, I will now consider how the apps were invoked through other spokespersons on social media platforms. From the ‘market work’ approach introduced in the theoretical framework above, it is evident that we need to acknowledge the contributions of a variety of actors framing markets. This is important for disclosing patterns of how consumption apps were framed and set some of the prerequisites for further translation or scepticism among consumers. The framings of ethical app promoters and ‘semi-professional’ consumer-focused media (cf. bloggers, digital magazines) converged almost perfectly but also expanded on the given initial framings. The tendency to evoke a convenient and mobile consumer app while in store (similar tropes as found within promoter discourse above) dominated our sample. The arguments converged partly in categorising the app as a tool for making mundane shopping choices less complex and, importantly, equipping consumers with the power to change the market relationship through inviting new technologies into the store.

Another tendency was to argue for the app’s contribution in terms of allowing for conscious consumers to make their choices in accordance with their ethical or sustainability values in a coherent manner. Thus, the apps’ identity values were also part of spokespersons’ discourse, something that exemplified their convergent framing tendencies with developers’ framing of the device as putting social and identity value on offer (consumer as citizen, consumer-as-change-agent). However, the arguments of the former (promoters, developers) became not only those of the latter, but mediators also expanded the apps’ ethical universe, identity value and activist dimensions. For example, Eco-Queen, a semi-professional blogger within the environmentalist blogosphere, worked to convince people to download the Fairtrade app to not only question mainstream markets but reframe the market in moral terms as a medium for political change, and, in the sense of a certain digitally equipped market agency, as a *moral community of conscious consumers* (a new agency emergent from consumption of ethical apps).

Good news! Now you can download a Fairtrade app that is really well thought out. This means that it will be easier for us consumers to ask for ethical products or search for cafés or lunch restaurants that serve Fairtrade labelled products. A perfect opportunity if you want to become a more conscious consumer. Because we do not want to shop our goods at the expense of workers that are deprived of their rights? Workers with shamefully low wages that are exposed to serious health risks, children’s work, etc. (Eco-Queen, March 26, 2012)

This (re)framing of agents (from unconscious to equipped conscious) and markets (now split into a ‘good’ market without worker exploitation and a ‘bad’ one based on unscrupulous human exploitation and health risks) embedded the app in a collective project and vision for the future framed around the figure of an aspiring consumer acting along the programme of the well-informed citizen engaging in solidarity congruent with workers around the world. ‘A perfect opportunity […]’ for people to act on their conviction of an image of a moral community of consumers mediated by the app was suggested. The fact that digital representatives showed themselves to be convinced by
the innovation was part of the translation of the device. However, not only were apps framed as convenient futuristic complexity-reducing tools mediating community values, they also acknowledged that being an app-equipped ethical consumer could imply a certain amount of hedonism.

Eco and Vintage likes Green Guide in the mobile (phone). Have you tried out SSNC’s app, the Green Guide? It’s free to download from App Store or Android Market. Green Guide is perfect for hauling in the store, in the app you find the Fish Chooser, Fruit Chooser, Vegetable Chooser and the Recycler. The thing that I think is so good with the Green Guide is that it in a supersimple way tells you what fruits and veggies you can enjoy unhindered right now. […] (http://blogg.ecoandvintage.se/gron-guide-i-mobilen/2012-05-17, kl: 14:26)

In the sample, bloggers promoted the Green Guide as not only ‘supersimple’ to use while in store but as future normalised elements of shopping habits and part of pleasurable consumption, ‘[…] tells you what fruits and veggies you can enjoy[…]’ Bloggers disclosed a perception of the device that played on both ‘techtopian’ and ‘techpressive’ (technology consumption as pleasure and self-expression) cultural discourses about technologies as solutions for major issues in the modern world (overabundance of mass market choice, complex information about difficult issues). This aspect of the device, playing the role of a control device for weary consumers looking for the right choice at the right time, came back at several instances in the material. The blogger ‘Yogasmur-fen’ (The Yoga Smurf) detailed a similar perception.

I don’t think I have mentioned this before, but I want to recommend SSNC’s superb app, the Green Guide. Because I am trying to better how I eat according to season I use the app for helping me to know what’s in season. Incredibly convenient to haul while you are in the store, standing at the vegetables, dillydallying! The fruit- and vegetable choosers are really good functions, and there are also recommendations for eating, housing, buying, and travelling more climate friendly.

(http://yogasmurfen.blogspot.com/2012/12/gron-guide-och-julklappsbekymmer.html 2012-12-17, kl: 00:00)

The app was listed as a companion device for aiding a consumer in need of specific information that could incentivise people to keep up with the intention to become better at eating sustainably (e.g. ‘self-nudge’). The device’s identity value was therefore positively valued and translated the promoters’ discourse in the sense of app consumption as an improvement device to attain the status of ethical consumer. Apps interfered not only with existing patterns of consumption or habits but also, on another level, framed new consumer identities. The desire to eat and shop with a clear conscience was associated with app consumption since the technologies were acknowledged as good at providing the consumer with abilities to ‘choose good’ and ‘do good.’

I have downloaded SSNC’s iPhone app the Green Guide. It’s a really good app that helps you to choose good fish, fruit and veggies. You can read about giant shrimps, pineapple and eels are not smart choices, … Because I am curious about whether regular shrimps is OK for eating I asked about it […] I got the answer: "Regular North Sea shrimps that have been labelled with Krav or MSC is OK to eat with a clear conscience. (http://www.bengbeng.se/2012/07/05/rakor-ett-bra-miljoval/ 2012-07-05, kl: 13:27)

The apps were framed as devices for problem-solving, managing, optimising, and organising purposes, and as tools for control of consumption and identity values. The apps thus (re)framed new and more in-depth relationships with the market (producers, retailers and fellow consumers). From a CCT approach, following Kozinets (2008), we can identify these framings as relying on wider ‘ideological nodes’ (promises) associating consumption and how technology is celebrated as a tool for social progress but also as an economic engine (Kozinets 2008, p. 868). In the background of the collective social media framing, overtly functionalist and problem-solving activities granted to ethical consumption apps roam in a domain of meanings where technologically equipped consumers, smarter consumers, envision a specific version of change, society and markets. This optimistic veneration of the technology disclosed showed how ethical apps were culturally constituted as powerful remedies to poverty, global climate problems, health issues, etc. The CCT part of the approach in this analysis enabled considering the apps’ stated ‘convenience’ (while on the go), ‘smartness’ (advice, tips) and ‘techtopian’ ideal (problem-solving abilities) not simply in terms of innovation/
product qualities but as contemporary cultural, meaningful action categories and thus asking how they might become accepted or rejected.

**Consumers and resistance to ECAs: from utilitarian problem solvers to recreational devices and failed expectations**

Following the theoretical outline of the paper, the final empirical section deals with analysing app consumption regarding the value apps delivered. Technologies, as much CCT-inspired research has shown, are associated with specific meanings that have an impact on their potential for acceptance. People engage in technology consumption not only to realise instrumental value but a variety of projects employing their own economic, social, and ideological resources.

**Utilitarian values**

Some participants detailed their interaction with the apps in positive ways, as easy to accommodate into existing concerns or habits because they made a good fit with existing problems related to ethical consumption or provided users with features they had not already thought of or expected from the device. For example, several participants explained how they perceived the synthetic advice of the Green Guide device, the ‘thumbs-up’ and ‘thumbs-down’ system, as a positive contribution to decision-making.

I really liked that they have this thumbs up and thumbs down. It makes it so easy, to, you know … because you don’t usually need to or have the energy to read up while standing in the store and read like five minutes before making a decision. Instead, you can just trust SSNC. Yeah, like, thumbs up, I’ll buy it. Or thumbs down. Like that. It’s about making decisions easier. (Hanna, interview)

The informants appreciated how the app enabled them to sidestep efforts to decouple choice from the transaction and instead combine them effortlessly through the device while in store. Trust and choice were partly delegated to the device. The digitalised choice device combined the energy- and time-saving value they looked for in such technologies and mediated sustainable purchase without interference from human intervention less than actually pulling out one’s phone in the store. Participants also appreciated how seemingly independent product information and valuation could be accessed in a portable format and therefore allow for decoupling transaction from product choice (or choice not to buy). Using the device in these terms obviously dovetailed with efforts and promises detailed by developers and promoters seemingly sharing similar valuation of the device for equipping smarter, effective and autonomous market actors. These aspects relate to ‘techtopian’ discourse and the perception of devices as effective means for social change (cf Kozinets 2008).

**Recreational devices**

Others in our sample were attracted to ECAs because they provided distinctive experiential or identity value. This applied, for example, to Oscar, who tried the Shopgun app and was impressed by the bar scanning feature.

Yes, but it is the whole thing, I think. It’s like you got a little magic thing that reads a secret code and then you reveal information. It’s cool high-tech, really. I think that’s fascinating.

(Oscar, interview)

The participant explicated how positive surprise from the encounter with new technologies added value for the user and could prompt usage of the device. Based on the interplay of curiosity, fun and rationalistic information search rather than only functionalistic overtones, this participant accentuated how hedonistic values could be appropriated from interacting with the device. The way a technology was framed as ‘magic’ and ‘fascinating’ disclosed how it was appreciated for its power to show something previously hidden (a surprise) and therefore could act as interesting for
users to explore such promises. That apps could entice consumers and have them negotiate different values was also found in other cases. One example detailed how using the Fairtrade app’s function of ethical product GPS-traceability (‘fika’) outdid user expectations. Participants who had tried out the digitalised map of Fairtrade places disclosed experiences close to exploration and discovery.

Their “fika-map” or “fika-function” is actually really convenient, especially if you are like me and travel quite a lot. I am a member of a board for a youth organisation, and when you, for example, are in a new city it is a really convenient way of where to find Fairtrade fika if you like to consider that aspect. […] I have, in that kind of situation. I wanted to know which cafés that sold Fairtrade products.

(Evelina, interview)

And this “fika” thing, I liked that a lot. You get a map that finds ecological or sustainable places. […] That was a decent thing. It’s fast and it checks your position, and from there you get to choose something that’s [fair]. Yes, I thought that was a good thing. And I think when, hopefully, you got to use these recommendations and reviews parts more, then it will become even better.

Interviewer: You mean this feature where you provide advice and add reviews?

Exactly. I think that could be very good. I usually use that kind of stuff quite a lot. If I draw a parallel to, for example, TripAdvisor when I am out travelling. I think that works really good when you look for hotels, even though they might be ranked with four stars, there can be really negative reviews on TripAdvisor, and they really nail it. I think this might develop into something similar and people that are neutral about a place, a restaurant, might write about it. They write what they really think. If you get a lot of reviews, then it becomes trustworthy and makes sense.

(Niklas, interview).

Consumers sidestepped the purely functional fulfilment of purchase behaviour and focused on consumption of the apps themselves (the device’s potential in terms of experiential value, convenience, discovery, and curiosity) i.e. part of an extended self (Belk 1988). Beyond the app’s qualifying places as sustainable through providing a ranking system and plotting a route to the closest restaurant, the interviews also evidenced how consuming the app could turn something seemingly individual, like pursuing an ethical product or place information, into a collective and public endeavour through providing content to the app. Even though none of the participants in this sample had actually produced reviews for the app, they detailed the potential of doing so, the openness of the script of the device for their identity projects and the social value, in positive ways (cf. Belk 2014). That told of something important about the potential of such a device to expand the collective links to the market environment by allowing consumers to interact and act on market information to strengthen the trustworthiness of the information provided through the app. There was a sense of redefinition of the device with hedonistic, expressive and recreational images on the one hand, and on the other hand, rehearsing the more computational, rationalistic consumer version as agenced by promoters.

**Confusion and functional barriers**

Several participants said they had heard of different ethical apps prior to the study; some had friends who told them about an app or suggested they try some out and others had tried some earlier. But for many participants, it seemed to remain something new, complicated and difficult to understand when approaching the content or functions of the apps. Below, one participant described the confusion she encountered while interacting with the Green Guide and the green profile programme for improving and controlling overall green performance,

**Interviewer:** You can choose to tick this one, it reads: “Yes, I can do that!” at the bottom. Did you recognise it?

**Participant:** Yes, I saw that one. I saw it and I thought, “Okay, what is this”? I didn’t understand what is was for. It was “What is it for”? You are supposed to … it was a checklist that I saw. You could sort of test yourself to see how well you do or something like that. Yes, you could tick some things there, and then you get a result in the form of a checklist over here. Then you might
get 10 out of 20. But it’s not visible everywhere. It won’t pop up every time, yes? But I don’t know what it means or what it provides, really. It didn’t feel, really, I mean it was too broad, actually. It was more like you should tick it for fun. Maybe it was just for fun. Maybe nothing more.

Another example of confusion was evidenced when one participant tried to scan for what she thought was a common product: chocolate. Upon trying out the scanning and search functions of the app, expecting usable advice in return, a somewhat perplexed consumer described the device’s failure to convince her of its value.

Participant: But I think this was quite bad, actually. I tried it when I was at Hemköp, and it says, “Write a search phrase”. So I wrote “Chocolate”, because I was standing by the chocolate inside the store. And then it returned like chocolate, chocolate, chocolate, chocolate. And then you don’t know. “What about chocolate?” And then I clicked the one at the top […] again there was like chocolate, chocolate, chocolate, chocolate. And then chocolate blueberry muffins. I thought it was really unclear. Like, what is this?

Interviewer: That’s strange.
Participant: Yes, I think this app was quite difficult to understand. Then I tried to scan a product, and that was easier. […] Here I scanned for this chocolate and then you are supposed to write milk chocolate. That’s not something you often do, maybe. I thought it was really unclear. What does it even mean, like “cacao aroma”?

Interviewer: There was a lot information that you did not understand?
Participant: Exactly. Like, here you can read about production and things like that […] I just had a look around. I thought it was unclear.

Interviewer: About the three different colours (red, yellow and green). Did you understand what they were?
Participant: No. I assumed that red was bad. But on the other hand, when you tick this, it says “yellow, red …”. Yes, you are right, it says red up there, so I thought it was bad. And then for yellow, it so unclear what it means. Almond was green. Almond is a good choice. What do you mean almond is a good choice? I scanned for milk chocolate. And it doesn’t even contain almond. So I felt like, well, maybe this one is not that well worked out.

Obviously, there was no clear-cut road to incorporate machine-calculated consumer choices based on the extra market information disclosed from a bar-code scan. Quite the opposite; the technologically advanced situation seemed to add perplexity to the decision-making process due to how the consumer interpreted the outcome of her product scanning. Scanning products expecting qualitative feedback was mentioned as a drawback on several occasions in the sample, not only associated with Shopgun but also the FT app. The interviews evidenced how gadgets designed to reduce complexity and delegate complex ethical situations to the device could become puzzling for the end user, a result that fits with previous research on the differences between developers’ prescriptions and consumer translation processes (Akrich 1992). This also disclosed how material activities (bar scanning and digital information processing) might work against diffusion, depending on objective properties. In some cases, this messy system produced ’blank scans’ based on technical issues. This result dovetails with Akrich’s analysis of the contribution of technical features to local failure of innovations (1992, p. 214). Similar to how local implementation of a new lighting kit, seemingly universal in design and application, failed to live up to expectations due to material misconfigurations of situated consumption (Akrich 1992), the apps did not deliver an infrastructure these local users could act upon, nor find their place in relationship to them.

Relative advantage and habits of consumption

Mobile apps potentialised a coupling of choice and transaction due to the possibility of carrying the device inside the store (the affordance of ubiquitous portable information), and this was framed as an important and innovative feature of the device. However, this possibility was, in the majority of cases, not successfully mobilised and faced some serious resistance from established shopping practices as well as material limits. Shopping patterns were often highly routinised and difficult to change, with
repercussions for app diffusion especially regarding the invitation to use them while in the commercial space.

I had this phone for a week. I was in the store many times and forgot to pick it up. I even went to the store, put it in my pocket, mind set on testing the app and then came home and just, “Oh my God, I forgot!” So, there is the issue of remembering to actually use it. Because when you get to the grocery store, other parts of the brain are activated.

(Lisa, interview)

But I think it is mostly messy when you go there [inside the store] with your basket and then you are supposed to haul your mobile and scan [a product], and then you're out of hands. Well no, it is not something that I usually use actually.

(Niklas, interview)

In these cases, it was obvious that established links between shopping patterns, commercial equipment (cf. baskets, products) and body parts (arms, brains) did not easily open up for another element in the routinised way of doing things properly according to the perceived norm. Thus, innovatively interfering with such networks might misfire in the sense that consumers simply did not perform according to potentials of the device or did not subscribe to the suggested new set-up, portable alternative product information that played on consumers’ willingness to pause their shopping, dig out the phone in one’s pocket, start the app, scan the product, and then make a decision leading to transaction. Sociotechnical barriers and habits cooperated against diffusion, and the thought of reconfiguring the current shopping set-up came across as silly or far-fetched. Technical objects might mediate our relationship with the world, but they sometimes do so in nonsensical ways. With a slight irony in tone, consumers disapproved of the apparent difficulties of using the device and the added effort of making straightforward searches for common goods like chocolate and getting smart advice from the machine. The mismatch between the moral of technology and social expectations was evident. Similarly, prescriptions for portability did not easily translate into new shopping patterns due to sociotechnical and cultural categories of proper and normal ways of doing one’s shopping.

**Software that did not resonate with cultural beliefs: lack of acceptance and social identity value**

The green profile function prescribed ethical consumption by performing ethical accountability where users could account for a score of their improvement and share it on social media. The app played on the idea of attaching users through resources of increased reflexivity for consumers to mirror themselves in their ethicality and communicate this to others. The model designed into the green profile system with scoreboards and ranked identity labels encouraged users to track their progress and engage with green challenges. App consumption could therefore, in this case, be an example of hedonism and identity construction as well as rational progression in the computational mode of self-control through synthetic feedback. Meaningful, funny and explorative features of the design were supposed to attract consumers and the self-identity value of technology as an extension of the self-incorporated interaction with the app. This cultural categorisation of meaningful consumption of technology disclosed how developers assumed users to carefully embrace the communicative, social media connectivity, and identity-based possibilities of the device. The function assigned identity labels according to consumers’ commitment levels (cf. planet saver, climate hero) and afforded communication via social media (share on Twitter and Facebook) and thus turned something ‘private’ (a product choice) into ‘public’ (social media). These assumptions about ways of consuming technologies provoked rather ambivalent reactions among participants,

Interviewer: Did you try to share it?
Participant: No, I don’t like that.
Interviewer: It says here, “Boast for your friends”.
Participant: No, I would not do that. But then it comes again. And it’s that again. I mean, I have already signed up for all this, and then I ought to live up to it also. Then you rather keep it to yourself. I don’t share much in social media either. It could have something to do with that. If I were that kind of person that shares a lot then maybe […] It’s of no use to me. It’s not.
(Helena, interview)

I don’t use that. […] I mean if I read like DN online and there was something about TCO having special rates on housing, then I would, if one could like just tick a box and e-mail a link to my husband. I did that yesterday. But we are not on Facebook, but I still share all kinds of stuff, but not on Facebook. I don’t need to share that I buy milk. It’s like practical information. It’s not about my image being boosted out there [on social media].
(Anna, interview)

These results were interesting due to developers’ discourse about new app technologies as a means to expand on ethical consumption more generally in society. Creative self-expression as discussed, for example, when participants negotiated meanings of the sharing function, was often denied due to how too much public ‘boasting,’ self-expression and self-enjoyment might make people look silly and lost to the flare of technologies (‘I am not that kind of person,’ ‘It is of no use for me’), meaning that they self-categorised differently than those who usually share things all the time on social media. Participant discourse revealed the importance of cultural norms about legitimate forms of social media use among ethical consumers in our sample and technologies’ meaning within wider nets of significance (cf. Belk 2013, p. 487). The obstacles to app acceptance were found within cultural framings of relationship to devices as sometimes embarrassing or against norms of technology use. Too much technology could interfere with people’s view of themselves as independent and not addicted to technologies like social media. Thus, the conflict between two proposed ideals – a computational and recreational discourse – was effectively engaging the interviewees in this sample.

Discussion and conclusions
According to Cochoy and Duboisson-Quellier, ‘The task for many consumers is no longer that of knowing (or showing) which product to choose, or that of deciding whether to choose alone or with a guide, but that of which guide to choose’ (2013, p. 4). Accordingly, to study innovation could be to follow this shift from choice to market devices. First, in this study market (re)framings allowed for making sense of how civil society actors sought innovation through market critique on the one hand, and, efforts of agencing ethical consumers on the other. Critique of who and what was included in the moralised market and composition of a new market actor (app-equipped consumer) was the basis for a proposed reframing of market relations. Consumer groups, the activist world and civil society actors prescribe their choices and values to consumers and (re)frame markets through their fights for social justice, environmental and animal protection, promoting economic equity, health improvements, encouraging consumers to buy or boycott, etc. Thus, these actors contribute not only to configuring market behaviour, but also to creating new identities that may generate economic activities and political change. This study followed this issue through marketing and consumption of specific ‘quasi’ market devices aimed at equipping consumers through (re)framing markets and configuring consumer agency. Thus, the paper makes a theoretical contribution through supplying ethical consumerism research with a new category of market devices and a framework based on recent conceptualisation of market innovation within STS-inspired market studies. Through analysing mundane scepticism and ambivalence towards specific devices, it answers the need to study specific trajectories of how consumers engage with consumption of ‘quasi’ market devices among a growing population of such devices. The identified barriers to acceptance were analysed through engaging with the complexity of processes involved, combining individual, sociotechnical and cultural dimensions related to initial framing efforts. To give the apps consistency, actors like bloggers
essentially became ‘spokespeople’ for the apps and contributed to developing specific framings of app-mediated market performances. They contributed with a (re)framing able to affirm an identity and social relationship attractive for others within the ethical consumer community. Conversely, several respondents resisted ECAs because they did not provide a distinctive value, affirming the framings by spokespersons or contributing to users’ identity projects. Several barriers to acceptance of the ECAs were identified, for example, potential changes in relation to force of habit for certain practices and conflicts with existing shopping habits and consumer norms. If consumers had difficulty in perceiving the value of an innovation, then they had no incentive to accept it.

My starting point in this article was that ethical app consumption does not merely mean better, faster, more advanced, less complex, and convenient ethical consumption. Rather, it refers to the ability to adjust market framings related to attractive cultural ideals (Kozinets 2008) emergent from relations between sociotechnical arrangements and (potential) users (Milyaeva and Neyland 2016, Callon 2007). Market framings that involve this new digital technology imagined the committed consumer today primarily as a computational actor assisted by high-tech gadgets, someone who would calculate and track products as well as his/herself while improving consumer activities through the managing, measuring and organising afforded by technologies. These framings rely on ideologies of technology (techpressive, techtopian) identified by Kozinets (2008) and detailed in the first analytic parts of this paper. However, too much computing or calculation could, as the participants in this study detailed, make them look or feel like too much of a control mechanism. Of equal importance, therefore, is another framing effort: the recreational ethical app consumer, an individual who uses technology for individual enjoyment, recreation and creative purposes. For example, participants described how they enjoyed the possibilities of deeper education, how bar scanning could entice them as magical and ‘high tech,’ and, finally, how sharing pledges could be understood in terms of creative self-expression. But, the role of apps for creative self-expression as discussed, for example, when participants negotiated meanings of the sharing function, was often denied due to how too much self-expression might make people look silly and lost to the flare of technologies. The optimal desired state for developers and promoters should be an experience that allows consumers to combine computing and recreation, not one that emphasises either one or the other.

The theoretical approach of the paper could spur further discussion regarding the relationship between CCTs’ interest in broader ideological fields of technology consumption and the field of STS-inspired market research, trying to locate the value of technologies as cultural resources sustaining consumer identities and illuminating how market framings are embedded in shared understandings of the role of technology in society. The paper also makes a methodological contribution through the empirical set-up with its ‘experimentalist’ approach that might provide novel insights about potential app consumption through focusing not on existing users but users involved in an imaginative task of potential future units of consumption.

Notes

1. This paper is connected to a previously published paper based on the same empirical data (Fuentes and Sörum, 2018). The other paper focused on functional and positive couplings between consumers and ethical consumer apps but did not analyse barriers to acceptance of such devices. The novel contribution of this analysis is, on the one hand, theoretical in that it conceptualises ethical apps as ‘quasi’ market innovations and combines STS with a CCT analytical sensitivity, and, on the other, empirical-analytical. It is focused on barriers to acceptance of ‘quasi’ market devices rather than their potential agentic configurations (agencement) as such. In these ways, the two papers make different but complementary contributions.

2. I am grateful to one of the anonymous reviewers for suggesting this term that expands on the variety of devices that work on markets and consumers.

3. The participant organisations either used small amounts of external project fundings for getting started with app development or used ‘in house’ budget money, as for example the case of SSNC that used small parts of membership fees as a base for app development. No continuous funding was allocated for the apps. No specific uses for collected data were reported in interviews. Only Shopgun developers stated an explicit future idea of
how to earn money on their project (i.e. to pay for development work and management of data) that was about developing cooperations with companies that would pay a small amount of money to be part of their app-based recommendation system if they were reviewed as appropriate partners (similar to a kind of marketing). None of these plans were realised at the time of the study. All work on the apps were either volunteer work or hired consultant work based on small budgets.

4. This study was part of a joint research project around digitalisation of ethical consumption, and data collection was conducted collectively by three researchers following the same research design and methods for collecting data.

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