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Digitalizing shopping routines: Re-organizing household practices to enable sustainable food provisioning

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ABSTRACT

New digitally enabled modes of food provisioning are being developed. The aim of this paper is to examine, empirically illustrate, and conceptualize how and under what conditions these digital food platforms become routinized and what this means for the enabling of sustainable food consumption. Drawing on an ethnographically inspired study of three digital food provision platforms - i.e. meal box schemes, digitalized local food markets, and a food aggregator app – the paper explores how new digital food platforms are introduced and become routinized. The study shows that to create a shopping routine, specific combinations of meanings, materialities and competencies had to be interlinked and configured to enable the consistent reproduction of a shopping practice mode. Furthermore, the analysis also shows that there are multiple ways of carving out a space for new food shopping routines. The digital platforms studied and the modes of food shopping that they enabled were able to replace, complement or reconfigure already-established food shopping practices. Finally, the conclusions suggests that while these new modes of food provisioning became routinized, it was unlikely that they would remain so over time. Only a temporary stabilization was possible as built-in dynamics meant that the shopping routine was unable to last. This brings to the fore the challenges faced by those trying to promote new digitally enabled modes of sustainable food consumption.

1. Introduction

Food provisioning is in a process of rapid digitalization in Sweden. Online food ordering apps, digitally enabled meal box services, food sharing apps, interactive maps that allows you to find specific restaurants, the examples of the digital enabling of food provisioning are numerous. Often these new digital devices and platforms come with promises of sustainability. Meal box schemes that will enable consumers to eat more vegetarian food, apps that allows you calculate the climate impact of your foods, or apps and platforms that enable the organizing of alternative local food markets.

This is associated with the high degree of digitalization in Sweden were 98% of the population are connected to the Internet and 93% use the Internet on a daily basis (The Swedish Internet Foundation, 2020)

However, the success of meal box schemes, food sharing apps, online food stores or digitally enabled local food markets hinges on the ability of these digital devices to be integrated into households' everyday practices and also change these practices in a sustainable way. This is far from a certainty. A key question thus, for both academics and practitioners, is: how and under what condition do digital food platforms designed to promote sustainable food consumption accomplish this goal?

Research on the digital enabling of sustainable consumption has examined how online spaces can foster environmental dialogue (Rokka and Moisander, 2009) and the role of personal blogs as intermediaries when promoting sustainable consumption (Joosse & Brydges, 2018). More closely connected to shopping, studies have also examined how smartphones can both assist and push consumers towards more ethical shopping (Fuentes and Sörum, 2019) and how QR codes can work to enable in-store sustainable shopping (Atkinson, 2013).

However, to date there are few studies that examine the role of digital sustainability enablers in the context of food consumption. What is more, although these studies have greatly contributed to our understanding of how digital devices can promote sustainable

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consumption, they have not provided any insights into how and under what conditions digital devices are integrated into households' everyday routines. This is key to understand the role digital devices can play in promoting more sustainable modes of food consumption. In order to enable new modes of food shopping, the digital devices and platforms utilized by consumers have to be coordinated with a multitude of other everyday practices, e.g. travelling to and from work, dropping their kids off at football practice, exercising, and spending time with friends. These devices have to become part of consumers everyday routines. This complexity, commonly acknowledged and empirically explored in food consumption studies (Dyen, Sirieix, Costa, Depezay, & Castagna, 2018; Evans, 2012; Gojard & Véron, 2018), needs to be accounted for if we are to understand how new digitally-enabled modes of food shopping become routinized.

The aim of this paper is therefore to examine, empirically illustrate and conceptualize how and under what conditions digital food provisioning platforms become routinized and what this means for the enabling of sustainable food consumption.

Adopting a shopping-as-practice approach (Elms, Kervenoael, & Hallsworth, 2016; Fuentes & Svingstedt, 2017; Keller & Ruus, 2014), and focusing more specifically on the concept of the shopping routine, we explore how new digital food platforms are introduced and become able to take hold.

More specifically, we analyze three digital food provision platforms: i.e. meal box schemes, digitalized local food markets, and a food aggregator app. In each case, we examine and conceptualize how a digital food platform is successfully introduced into household practices, replacing, complementing or reconfiguring existing food shopping routines. We argue that, while the use of digital devices disrupts already-established routines regarding how to go about everyday life, new routines are established as they become part of consumers' ordinary lives.

Through this analysis, our ambition is to contribute both specifically to our understanding of food consumption and how more sustainable modes of food consumption can be digitally enabled and more generally contribute to the on-going discussion regarding how and under what conditions digital platforms can promote more sustainable consumption.

2. Literature review

While digitalization is often portrayed as a natural force sweeping through society and affecting every sphere of our lives, most technological gadgets and digital devices fail to become part of our everyday practices. For example, gadgets such as gaming consoles, frequently used by consumers, are rapidly discarded as the novelty wears off (Gram-Hanssen, 2008). Studies also indicate that many of the applications that are downloaded present difficulties when it comes to being integrated into consumers' everyday practices (Fuentes, 2020). This presents a major problem for those attempting to launch and establish new digital food platforms.

Against this background, we are interested in how the integration of digital devices plays out and thus replaces and renegotiates routines. In particular, this study is concerned with how digital platforms form part of consumers' everyday shopping routines. If we are to understand how sustainable modes of food shopping can be established, it is important to understand how shopping routines can be broken and dissolved, and new routines put in their place.

2.1. Conceptualizing shopping routines and their digitalization

Drawing on practice theory, shopping is conceptualized here as a set of doings and sayings devoted to the "procuring many of the goods and services consumed in the course of other practices" (Röpke, 2009, p. 2495).While shopping has not thus far been a central topic of practice theory influenced consumption studies, there is now a growing field of studies that draws on theories of practice to conceptualize shopping (examples include Bulmer, Elms, & Moore, 2018; Elms et al., 2016; Fuentes, 2014; Tran & Sirieix, 2020).

The shopping-as-practice approach is often positioned as an alternative to the more established psychological-economic and socio-cultural approaches to shopping (Fuentes, 2014; Tran & Sirieix, 2020). Rather than investigating attitudes and decision-making processes, or exploring the symbolic meanings and discourses underpinning and framing shopping, shopping-as-practice approaches have taken an interest in how practices are actually performed, the competence and know how required, the meanings that motivate its performance, and the materiality involved in its enactment (Fuentes, Enarsson, & Kristoffersson, 2019). Studies in this stream have explored the emerging practice of mobile shopping (Fuentes & Svingstedt, 2017), the introduction of self-service checkout technology (Bulmer et al., 2018), how new motherhood changes everyday shopping (Burningham, Venn, Christie, Jackson, & Gatersleben, 2014), co-shopping (parent and child shopping) (Gram & Grønhøj, 2016; Keller & Ruus, 2014), and, specifically relevant to this paper, grocery shopping (Elms et al., 2016; Venn, Burningham, Christie, & Jackson, 2017).

Following in a similar vein, we turn our attention to food shopping. We treat food shopping as a subset of the practice of shopping. There are, furthermore, multiple modes of food shopping. That is, following Shove et al. (2012), one can assume that there are multiple ways of performing food shopping, each involving a specific set of competencies (e.g., how to use digital devices), meanings (e.g., what a proper diet involves), and materialities (e.g., digital platforms to place orders or cars and bikes to pick up food).

More to the point, our analysis explores how digital food provisioning platforms work to promote and establish specific modes of food shopping. Above and beyond merely establishing a new mode of food shopping, we seek to conceptualise and understand how these new digitalised modes of food shopping become routinized, and under what conditions this happens. To accomplish this, however, we need to first clarify what we mean by shopping routines, how these are established, and how they change.

There have been a number of attempts, drawing on practice theory, to define, develop and put to use the concept of the routine, often with the aim of better understanding how routines that support sustainable modes of consumption can be developed and established. While most seem to agree that routines are inescapably linked to temporalities, exactly what characterizes a routine, and how it differs from a habit, seems to be a point of contention (Halkier, 2020). Take the issue of temporal regularity, for example. While some claim that habits do not need regular repetition, instead being a disposition to act (Warde, 2016), others argue that it is precisely repetition that makes a practice a habit (Shove, 2012). Another point of contention is the deliberateness of habits and routines. While some see habit as the more deliberate of the two (Shove, 2012), others argue that routines are the more deliberate of the two (Warde, 2016).

There has also been some empirical analysis of routines and their transformation. In her research, Gram-Hanssen (2008) demonstrates how routines can change over time as new technological inventions enter the market and become standardized parts of the household (e.g., how consumers' cooking routines change as the microwave and freezer make their entrance into the home). In their work, Moscato and Ozanne (2019) show that consumers can challenge existing routines by, for example, engaging in new ways to have dinner, thus resisting hegemonic dinner regimes. Thomas and Epp (2019) explore how consumers respond to misalignments of newly-adopted practices, and how they work towards trying to habituate these practices into their daily lives. Previous research has also investigated how normal everyday routines can be disrupted if an extraordinary incident occurs, e.g. a major natural disaster that disturbs ordinary routines like taking a shower or doing the laundry (Phipps and Ozanne, 2017). Here, Phipps and Ozanne (2017) show how consumers can alter their routines to fit the circumstances of a new living situation.

Our primary ambition is not to contribute towards the conceptual discussion about what a routine is. Our scope is narrower. Instead, what we want to do is draw on the body of work outlined above to develop, for our purposes, a useful conceptualization of the *shopping routine* to guide subsequent analysis. In taking on this project, we will borrow freely from practice theory influenced work on routines.

To begin with, the most important thing, the term shopping routine is used in this paper to denote a shopping practice or set of practices aimed at provisioning and *recurrently* performed with a high degree of *consistency*. Thus, for a shopping practice to become routinized, it has to both be recurrently and consistently performed. Over and above mere recurrence and consistency, routines typically also involve a set of actions performed in a specific *sequence* and for an often-normalized *duration* (Southerton, 2020). The order and duration of the actions included in the routine matter, often being key to the proper performance of the routine.

To be clear, while modes of shopping are sometimes performed in a routinized way, not all shopping is routinized. It is entirely possible for a shopping practice to be recurrently performed without being performed in the same manner. Take tourism shopping as an example. While this practice is recurrently performed, as many consumers go on annual trips and include shopping as part of their tourism performance, it is unlikely that the practice is consistently performed as both the destination and the shops will likely vary, as will the kinds of products available and perhaps also the company. Tourism shopping is, thus, a recurrent practice, with its own both circular (annual trips) and linear rhythm (a shopping trip typically entails a sequence of events), but it is not a shopping routine. Similarly, while some modes of shopping may be a routine to some consumers, this is not necessarily the case for all consumers. Leisure shopping on the weekend may be a shopping routine for one consumer but a completely unusual practice for another. Thus, while performances of shopping can become a routine (for some practitioners), this does not necessarily mean that shopping-as-entity is (always) a routine (Shove, 2012).

2.1.1. What does it take to establish a routine?

How, then, is a shopping routine established? For a practice to become routine, the elements on which that routine depends have to be readily and reliably available (Shove, 2012). In our case, this means that a number of shopping elements have to be in place, being available for the performance of the routine and largely unchanged between performances.

First, for shopping routines to be established, a series of actions has to be learned. Although we acknowledge that shopping routines, like other routines, are highly dependent on tacit knowledge and embodied actions, they also have to be learned before they can be performed (and become tacit). This often involves both understanding and following explicit instructions. Once the shopping routine is learned, it becomes more tacit, and less consciously performed. Nevertheless, this does not necessarily mean that established shopping routines do not require cognitive efforts. A routine can also involve, and often does, a set of routinized ways of thinking. These mental activities demand consumers' attention to varying degrees. Neither does this mean that shopping routines are completely non-reflexive once established. A shopping routine can still involve reflexive thought regarding, for example, the choice between fair trade products or non-fair trade products, ecological products or non-ecological etc. That is, a shopping routine can be both tacit and reflexive at the same time; it can have some built-in reflexivity and still maintain its routine character (for a similar argument, see Halkier, 2020).

Along the same lines, even though a shopping routine may be non-reflexive, it is still underpinned by motivational knowledge. Underlying a shopping routine, and activated and brought to the fore during its performance, are the reasons why the routine is performed. Routinized practices, thus, like other practices, have to be meaningful to be performed.

Shopping routines, like routines in general, are supported and held in place by socio-technical landscapes. A range of artifacts, infrastructures and materials both shape and keep routines in place. Stores and their opening hours, public transportation, and the availability of parking are examples of infrastructures both enabling and configuring shopping routines. Similarly, the development of online retailing and mobile shopping has changed the temporalities of shopping routines (Fuentes & Svingstedt, 2017).

Finally, and importantly, shopping routines, like other routines, both configure and are configured by temporalities (Southerton, 2013). Shopping routines are normally performed over a specific period of time (duration), at a particular frequency (intervals between performance), and during specific time slots. Shopping routines, thus, often have to be adapted to broader temporalities – e.g. working hours - but they also configure those temporalities. Shopping routines, like other practices, can thus be patterned by but also contribute to the reproduction of cyclical (e.g., daily, weakly, seasonal, yearly) and linear (sequence of activities) rhythms (Southerton, 2020).

2.1.2. What does it take to change a routine?

Following the line of argument developed above, a routine is broken when it is no longer recurrently and consistently performed; i.e. when the previously committed carriers of that routine fail, for one reason or another, to consistently perform it.

A shopping routine can thus be broken, or reconfigured, by changing one or more of the elements that keep it in place. To begin with, a routine can break if the practitioner's competence, or skill, changes. This means that there cannot be a drive for competitive improvement or self-development (Shove, 2012), as in many sporting practices, for example. There cannot be any room for a drastic development of the skill of the practitioner as this would erode the routinized character of the practice. Following the same logic, a certain level of competence and skill has to be maintained for the practice to be recurrently and consistently performed.

Likewise, a shopping routine changes when the meanings associated with the routine change. The meanings associated with a routinized practice can change slowly or rapidly, e.g. as the result of cultural contestation (Halkier, 2020). An example of this is the criticism of meat consumption and the routine of the Sunday roast or Christmas ham. As discourses around the negative environmental effects of meat consumption circulate and substitutes are developed and reach the market, these meat-centric routines run the risk of being broken up.

In addition, as one might expect, important changes in the socio-material landscape enabling the routine can also lead to the breaking of a routine. This is central to our analysis, which looks at what happens as new digital devices are introduced into household food practices. A notable example of this is the shift to self-service shopping technologies. As this new type of technology was being introduced, and stores were being reorganized around self-service, the routine of over-the-counter shopping, assisted by a shop worker who helped consumers to evaluate products, and then measured and packed these, disappeared and was replaced by a new self-service shopping routine whereby much of the work previously performed by shop assistants was transferred to the consumer (du Gay, 2004).

Finally, and importantly, is the issue of temporalities. Changes in temporalities, whether to do with practitioners' everyday lives – changing work routines for example - or to do with broader societal temporalities –shifts regarding dinner time for example – can lead to changes to or breaks in routines (Southerton, 2013). Temporal routines are both personal and collective (Warde, 2016) and thus changes in routines can be generated by changes in either of these. This is especially relevant for food practices which are often closely integrated with other food practices and an array of non-food practices (Warde, 2016) while also typically involving multiple household members. Because of this, they often require considerable coordination with both other practices and other household members (Southerton, 2013, 2020). Changes in in other everyday practices and routines therefore risk leading to breaks in specific food routines.

2.1.3. How are new routines established?

Conversely, the establishment of a new routine, or the reconfiguration of an existing one, requires the interconnecting of the elements making the routine possible. In the case of a shopping routine, this can involve, as we shall see in the analysis below, the arranging of a new mode of provisioning that involves new materiality and meanings and requires new types of competence.

The establishment of a routinized practice can, at least to some extent and under certain conditions, be deliberately orchestrated by an actor or group of actors (Warde 2016), although this is often a difficult task due to the many moving parts involved. In addition to the difficulties involved in successfully interconnecting the necessary elements, shopping routines also exist in competition with other routines and practices. For routinized practices to survive and persist, they have to colonize both slots of time and other resources needed for their performance (Shove, 2012; Southerton 2020). This means that routines are in competition, with other routines but also with less routinized practices. They compete over both time and other resources. Therefore, the establishment of a new routine almost always involves the displacement or reconfiguration of another routine (Shove, 2012; Southerton, 2003).

In what follows, we put the theoretical approach outlined above to use in order to analyze the establishment of three digitally-enabled modes of food provisioning. We discuss the elements involved in the establishment and routinization of these new modes of food shopping, and the mechanisms by means of which they manage to carve out and colonize a space for themselves in the complex nexus of consumers' everyday practices.

3. Materials and methods

To investigate digital shopping routines, we have conducted ethnographically inspired fieldwork in which we combined interviews with observations (Elliott and Jankel-Eliott, 2003; Hammersley and Atkinson, 2007) to explore how consumers utilize three types of digital food platforms.

We have included the three following cases: meal box schemes, a digital local food node and an app that is a platform food aggregator. These digital platforms have in common that they offer a service that provides foodstuff that can make shopping for food exciting, convenient, and affordable, as well as more social and fun. Also, these platforms are promoted by marketers as offering sustainable food provisioning, which is a key issue since all households express some sustainability concerns.

These cases were selected based on five preset criteria: i.e. offering services to urban areas, being well-known among consumers, promoting sustainable food provisioning, providing consumers with different options/services, and where the services offered facilitate consumers' everyday meal routines, e.g. lunch or dinner. Moreover, these cases are of particular interest to the study of routines as they showcase differences in the kinds of practices that are coordinated. The focus in of the meal box schemes is everyday dinner plans, with the food aggregator app providing a way to manage lunch and the digital local food node being utilized to put a silver lining on weekday dinners or to provide items for making weekend dinners fancier. We provide a brief description of each platform before moving on to explain the methods utilized to explore how consumers develop their digital shopping routines.

3.1. Three types of digital food platforms

3.1.1. Meal box schemes

The meal box scheme is a service providing a box of premeasured food items, accompanied by recipes, which is either delivered to households or picked up at service points at regular intervals by households. The first service of this kind in the world was established in Sweden in 2007 by the company Middagsfrid (Moskin, 2013). Since then, the meal box scheme business model has spread rapidly to many other countries such as Germany, United Kingdom, Norway, the Netherlands, the USA and Australia, where Germany is an important market including the major actor and now Germany owned company HelloFresh (started by a team of Swedish and German entrepreneurs) (Lindsten, 2020). Today, in Sweden there is approximately 20 companies operating (matkasse.se), and the interest among consumers to shop from these companies keep growing, going from a steady demand for the years before the pandemic (2018-2019) to escalating during the pandemic (HUI, 2020).

Meal boxes are ordered online and can be managed by logging into a user account on a website or via the app provided by the meal box company. Consumers can choose from a variety of meal box schemes, including classic everyday boxes, vegetarian options, the weight watcher's box and different kinds of family boxes. In this study consumers use the service of meal box schemes from six different companies: Linas Matkasse, Årstiderna, Coop, ICA, City Gross and MatHem.

3.1.2. A digital local food node

The case of *REKO-ring* (REKO) is included in the study as a digital local food node, and we focus on the Swedish initiative known as REKO (REKO stands for *rejäl konsumtion*, which translates loosely as "proper consumption"). This food node utilizes Facebook as its digital platform. REKO is a way for consumers to shop for locally produced food – products are sold directly by the producer to the consumer. It is a popular movement and has grown rapidly; Starting in Finland in 2013, the idea then travelled to Sweden, with the first REKO community being established in Grästorp in 2016. Since then, the number of REKO communities in Sweden has increased: In September 2020, there were about 200 communities with more than 700,000 members (https://hushallningssallskapet.se/forskningutveckling-2/reko/). The fieldwork in this paper includes REKO communities in the south of Sweden, in the counties of Småland and Scania. We have included six different REKO communities, with between 3,100 and 5,800 members on Facebook (as of October 2020). All six Facebook groups are public.

The REKO communities come together in Facebook groups and, in these groups, the producers post what kinds of products are available for purchase. The communities also convene for 30-minute delivery meetings at centrally located city parking lots. Payment is made beforehand through the digital payment service *Swish*. The content of the Facebook group is refreshed after each physical meeting, which means that all the posts advertising products are deleted by the administrator and a new week then begins with fresh new content. There is a limited batch of products available each week, depending on how many and what kinds of producers are participating (not all the producers participate every time and they offer different products, e.g. meat, dairy, vegetables), on the weather conditions for farming, and on the popularity of certain producers and products.

3.1.3. A food aggregator platform

Karma is a food aggregator platform. This is an app for smartphones and was developed by a Swedish startup in 2016. It expanded to the UK in 2018 and to France in 2019 (https://karma.life/about). The idea behind the app is to connect surplus food from coffee shops, restaurants and retailers with consumers at a discounted price. In this way, consumers can help to rescue food and thus reduce food waste, and restaurants can obtain revenues for food products and meals that would otherwise have gone to waste. Karma has many of the well-known coffee shops, restaurants and retailers connected to its platform and consumers can find their nearest outlet using an interactive map in the app. Additionally, in the app, consumers can browse the products available, see the available numbers of a specific product, place an order, pay for that order, and get a time slot for picking it up.

For each of these three cases, we have followed the same method procedure: In the next section, we will outline how we proceeded with the fieldwork.

3.2. Investigating how consumers develop digital shopping routines

In this study, the household, as a nexus of interconnected practices, constitutes a social setting (Atkinson et al., 2001). We investigate how digital platforms are integrated by Swedish consumers during their daily lives by examining how the use of platforms challenge and reorganizes routines of food consumption, as well as how platforms disrupt already established routines and give way to new routines that are coordinated by consumers in order to fit into their weekly work schedules, kindergarten hours, children's activities, keep-fit sessions, and vacations.

We recruited households by publishing recruitment notices on digital platforms, utilizing both authors' social networks, and via referrals from participants. The participants were recruited on the basis of having utilized a platform for ordering food online: This means that the participants have used a digital platform a couple of times and have become acquainted with its interface and know its main functionalities.

Participants were informed of the aims of the project and their right to opt-out of the study at any point in time. The interviews were designed to avoid sensitive topics regarding sexual identity, religious believes and health information/medical history. Participants were guaranteed anonymity and pseudonyms are used in the illustration of the empirical results. Their informed consent was documented. Participants were also informed of how their data was going to be stored.

Thirty-nine households participated in the study; i.e. the meal box providers had 15 households, the platform utilized by local food nodes had 14 and the food aggregator app had 10. The fieldwork was conducted over a period of 16 months from June 2019 to October 2020, with the households being located in Sweden's three major urban areas, i.e. Stockholm, Gothenburg and Malmö, in these cities' suburbs, and in the countryside throughout southern Sweden. The focus on southern Sweden is a result of practical reasons, since most of the fieldwork took place before the pandemic and was limited by travel distance.

To explore how digital routines are created and shaped by consumer interactions with various platforms, and how these routines are coordinated with the complex of practices that make up people's everyday lives, we conducted ethnographic interviews, kitchen observations, digital observations of websites and apps, and digital walkthroughs (Fuentes and Sörum, 2019), which later on turned into screencast videography (Kawaf, 2019) as a result of the COVID-19 pandemic.

We were, for both practical and privacy reasons, unable to conduct participant observation and "hang out" with household members, an approach shown to be productive when trying to understand household practices (Evans, 2012). Given the number of digital food platforms and households in the study, spending considerable time with each household was not feasible within the time limits of the project. Moreover, recruiting household for this of type of study would probably have been difficult. The household we contacted were reluctant to participate in ethnographic studies and grant access to their homes and household's practices. Proposing even more intrusive and time-consuming methods was not deemed advisable.

However, although unable to produce the ethnographic depth associated with extensive participant observations, we contend that the combination of practice focused ethnographic interviews and various observations techniques mentioned above allowed us to gain an understand, albeit partial, of the food practices performed and how they were framed by the households.

The interviews were informal in nature and the interview guide was designed to cover a few "grand tour" questions which were complemented by follow-up questions regarding specific themes on navigating and utilizing the platform, picking up the food ordered via the platform, and cooking and eating it. The interview guide was designed to capture the practices of utilizing the digital platforms as well as the meaning the participants ascribed to these practices.

The interviews were conducted in people's homes, in close proximity to kitchens, or using video conference software (Zoom and Microsoft Teams). The observations of the kitchen utilities and the storage of food and food waste were conducted during the interviews, as were on site observations of the pick-up spots for REKO-rings. The kitchen observations, a type of observation increasingly used in food studies (Evans, 2012), provided opportunities for the interviewer to ask specific questions about how the participants used kitchen utilities and storage spaces, thus capturing detailed accounts of activities that would be difficult to grasp during the interviews. Kitchen observations are valuable in that they enable the research to both observe and connect interview accounts to a location that is often a hub for intersecting food practices. This was made difficult by the shift to video conference interviews, although some efforts were made to "observe" remotely.

In order to unpack how digital platforms are utilized by consumers, we have conducted digital walkthroughs (Fuentes and Sörum, 2019). During these digital walkthroughs, we ask consumers to show us how they go about, for instance, browsing, communicating and ordering online, and we thus get a better grasp of how they interact with the interface. The digital walkthroughs, after COVID-19 had broken out, were conducted as screencast videography, entailing that we asked the participants to share their screens during video calls when we digitally recorded the on-screen activities on their mobile screens with narration (Kawaf, 2019).

Finally, in addition to the interviews, kitchenscape observations and digital walkthroughs, we also conducted digital observations of the digital food platforms in question, and their marketing efforts (see Table 1 for details). These observations were documented using screenshots and focused on how the platforms are organized, what actions the interfaces encourage, and how the main functionalities and features were designed and framed in order to both appeal to and reward the user.

The material consists of interview transcripts, photographs taken by both the participants and the researchers, observation

Table 1
Research participants.

Households

Case: Meal boxes							
Pseudonyms	**Household type**	**Age interval**	**I**	**DI**	**KO**	**DW**	**SV**
1 Anders	Family	40-49	X		X	X	
2 Nicole & Emil	Family	40-49	X		X	X	
3 Linda & Markus	Couple	50-59	X		X	X	
4 Susanna	Couple	50-59	X		X	X	
5 Anna & Niklas	Family	40-49	X		X	X	
6 Sofie	Family	40-49	X		X	X	
7 Hanna	Family	30-39	X		X	X	
8 Lisa	Family	30-39	X		X	X	
9 Johanna	Family	30-39	X		X	X	
10 Lotta	Family	40-49	X		X	X	
11 Cajsa	Family	40-49	X		X	X	
12 Anne	Couple	60-69	X		X	X	
13 Louise & Tommy	Couple	50-59	X		X	X	
14 Josefine	Family	50-59	X		X	X	
15 Isabelle	Family	40-49	X		X	X	
Case: REKO							
16 Charlotte	Single	50-59	X		X	X	
17 Alice	Single	50-59	X		X	X	
18 Katarina	Single	50-59	X		X	X	
19 Marianne & Lasse	Couple	30-39	X		X	X	
20 Ulrika	Couple	50-59	X		X	X	
21 Christina	Family	50-59	X		X	X	
22 Susanne	Family	30-39	X		X	X	
23 Lina	Single	50-59	X		X	X	
24 Alva	Couple	40-49	X		X	X	
25 Ellen	Family	40-49	X		X	X	
26 Britta	Family	40-49	X		X	X	
27 Sanna & Oscar	Couple	50-59	X		X	X	
28 Katrin	Family	60-69	X		X	X	
29 Anneli	Family	50-59	X		X	X	
Case: Karma							
30 Gabriella	Couple	40-49	X		X	X	
31 Mattias	Single	40-49		X			X
32 Angelica	Family	40-49		X			X
33 Sofia	Family	50-59		X			X
34 Martin	Couple	30-39		X			X
35 Beatrice	Family	30-39		X			X
36 Petra	Family	50-59		X			X
37 Jonny	Family	40-49		X			X
38 Arvid	Couple	30-39		X			X
39 Angela	Single	20-29		X			X

Table 1.
Interview = I
Digital interview = DI
Kitchen observation = KO
Digital walkthrough = DW
Screencast Videography = SV

fieldnotes, and short videos of the digital walkthroughs. The material was coded by using the constants comparative methods mostly associated to the grounded theory approach (Charmaz, 2014). The material was analyzed collaboratively by the authors during two phases. During the first phase, we read through the material in order to identify a number of themes in response to the general question: “Under what conditions does use of the digital platforms become routinized?” Once a set of themes and categories had been established, the material was divided up and revisited in order to perform the specific coding. The specific coding procedure focused on each of the cases (meal boxes, REKO and Karma), in which we worked to further highlight and focus the themes and categories. Hence, moving between empirical specifics and a general understanding of the material (Charmaz, 2014). Both these phases were supported by recurrent analytical meetings during which the analysis and coding were calibrated to make sure the coding had been done consistently. Below, we present the result of this analysis, illustrating the material with summaries of observations, interview extracts, and images.

4. Results

How and under what conditions does use of the digital food provisioning platforms become routinized? In what follows, we will draw on our three cases to provide an account of how these new digital food platforms and the modes of food provisioning they enable become an integrated and routinized part of consumers’ everyday practices. More specifically, we will in each case 1) describe the new mode of food shopping developed, 2) analyze which specific combination of meanings, competence, materialities and temporalities is necessary in order for the new practice to become routinized, and 3) discuss how this new mode of food shopping carved out a space for itself in relation to already existing food shopping practices.

4.1. The meal box shopping routine

Meal boxes consist of food items accompanied by a set of recipes and delivered to the home. The food is often premeasured and at times also pre-sliced, thus allowing the easy preparation of meals. The idea is that consumers subscribe to a meal box scheme, thereby outsourcing the task of grocery shopping (in-store) and receiving instead the ingredients and recipes for meals directly to their homes in boxes or bags. This mode of shopping is digitally enabled and typically involves both a webpage and a smartphone application that allows consumers to place and change orders. Both the webpages and the apps clearly explain the steps that consumers have to go through to successfully order, unpack, and cook their meals. Usually, meal box services are ordered for weekdays, while weekends are left open. Food shopping routines in Sweden typically follow the meal patterns two hot meals a day including cooked lunch and dinner, which is then complemented by afternoon snacks (Fjellström, 2004). This is in line with the service offered, which is designed to replace the weekly or daily dinner grocery shopping that consumers normally undertake. To be more specific, meal boxes aim to replace dinner meals, one of the two hot meals a day typically consumed in Sweden. Meal box companies typically offer a broad range of boxes in accordance with different themes; i.e. easy to cook, vegetarian, ecological, family meals, inspiring and so on. These meal boxes are intended to fit with households' multiple food aspirations, supporting and enabling their desired food practices.

The meal box service and the marketing that accompanies it are planned to promote this new mode of food provisioning; it is designed to establish a new food shopping routine. What, then, is necessary in order for this new mode of shopping to develop and take hold?

First of all, consumers have to find it meaningful to engage with this new mode of food provisioning. They have to both see and incorporate the benefits of digitally shopping for food using meal box services. As other studies have shown, aligning the goals of consumers and the value offered by the digital platform is crucial to the successful incorporation of technology into the household (Hargreaves, Nye, & Burgess, 2010). To this end, the meal box schemes are framed as a convenient way of provisioning food (see also, Hertz & Halkier, 2017). Consumers do not have to go grocery shopping, plan their weekly meals, and even receive assistance when preparing their meals. This is marketed as a time-saving food service that also adds food novelty, introducing new dishes and flavors to the household. In addition, the meal boxes are also accompanied by the promise of sustainability and healthy living. Ordering meal boxes allows households to be more sustainable, to buy more ecological food, to eat more healthily and to follow a more vegetarian diet:

Emma: So, it has changed with the meal box, who cooks?

Tommy: Yes, and well actually eating something else that I would never have done otherwise

Louise: Yes, you have always been more sceptical about change

Emma: Yes?

Louise: Well, there was a bit of that with the vegetarian option

Emma: Yes, so you have started cooking and eating things that you did not do before?

Louise: Yes, we have

Tommy: Yes, and above all the vegetarian I can find interesting now

Louise: Yes, but we are not strictly following a vegetarian diet but we want to eat less meat

The meal box companies cater to various types of households, and their dietary preferences. Often, this is also how they are seen by consumers, who buy into the meal boxes in the hope of aligning their food practices with their food aspirations, as we can see in the above example from Louise and Tommy discussing starting a more vegetarian diet. When this is accomplished, this novel mode of food provisioning is turned into a food shopping routine.

Motivational knowledge is however not enough, consumers have to learn to use the meal box services' digital interfaces (websites or apps) in order to place their orders, change the week's meals, or switch/exclude ingredients. Furthermore, consumers need to familiarize themselves with and learn to use these digital devices in order to communicate with the meal box companies, to pause the service, to provide positive feedback, or to complain about incorrect deliveries. A certain level of know-how and even skill, one could say, is required in order to successfully use these devices and the service they give access to (Fuentes & Samsioe, 2020). Once this know-how has been acquired, it takes on more of a tacit and embodied nature. The taken for granted and non-reflexive nature of this know-how becomes apparent when companies change their interface design, leaving consumers lost when trying to find their usual menus and functions. Because the digital interfaces allowed multiple ways of placing and changing orders, consumers usually developed and routinized different approaches. While some used their order history to place new orders, others used the search function, and still others simply automated their orders. The style of order that took hold was often also linked to a specific digital device – this could be a computer, a tablet or a smartphone. Whichever style of ordering the consumer developed, it was evident that this quickly became routinized for that specific consumer and taken for granted. When asked to demonstrate other ways of ordering meal boxes, or asked about specific functions not forming part of their routine, the consumers were often at a loss.

Third, the importance of digital platforms is self-evident. Importantly, the design of the website and apps can cause the establishment of meal box routines to vary in difficulty. The digital interface and service were designed to support routinization, while also allowing some flexibility. The automatic reordering of meal boxes was often the default setting, meaning that no manual reordering needed to be done on a weekly basis. At the same time, the devices came with built-in flexibility that allowed the consumers to both pause and change their orders, so as to adapt to the multiple food and non-food practices and routines shaping their everyday lives. The digital devices also came, then, with a built-in weekly temporality.

However, also crucial to the routinization of this mode of food shopping were other non-digital materials, devices and infrastructures, e.g. the routinized unpacking of the food after delivery because the consumers had designated cupboards, drawers and fridge and freezer compartments where they put their meal box food. Initially, this often required some reorganization of the kitchen. Once this reorganization had been done, unpacking became more routinized. Multiple material arrangements both enabled and shaped, then, the routinization of meal box ordering.

Finally, and crucially, the new meal box ordering routine has to be coordinated with the other routines and practices of the household (Hertz & Halkier, 2017). This normally involves a considerable amount of adjustment, making small changes to all the practices involved in order to be able to organize these into a set that interlinks without conflict:

Nicole: Well at times they've come a bit earlier and then they ring and ask if I'm still at work but at times I have, I tell them to leave it on the stairs and then I'll come…/ but I actually try to fend them off in such a way that if I'm working to four, I try to take between four and well between 4 and 9 pm so I know I'll be home and then it can be the case that I drive Fredrik to the gym and they turn up then but then I also know that I'll be away for 3 minutes so it's well… I don't challenge things that way.

In the case of the meal boxes, this often means coordinating things so that at least one household member is at home to receive the delivery. This often involved adjusting when you leave work, and making sure the food is not delivered while you are away doing errands, dropping your kids off at practice, or working out at the gym. Problems were common and could even lead to consumers terminating their accounts. Coordination was key to the routinization of meal box schemes.

4.2. The REKO shopping routine

REKO (standing for *rejäl konsumtion*, which translates loosely as "proper consumption") is a way of shopping for locally-produced food. It is a digitally organized way of buying food products directly from local food producers. This mode of shopping creates direct contact between producer and consumer, but does not involve cooperative farming or co-ownership (Community Supported Agriculture - CSA) (Thompson & Coskuner-Balli, 2007), since there is no formal membership, it based instead on a loosely connected Facebook group. In this Facebook group, local food producers advertise their products by posting frequently detailed descriptions of the food on offer, accompanied by pictures and details of prices and how to order. Only local food producers are allowed to post in the group. Consumers place orders by commenting on the local food producers' posts. The local food producers and consumers in the REKO-ring convene for a 30-minute pick-up meeting organized at a centrally located city parking lot. Consumers pay beforehand using the digital payment service *Swish*. The content of the Facebook group is refreshed after each physical meeting, entailing that all the posts advertising products are deleted by the group's administrator, and a new week begins with fresh content. There is a limited batch of products available each week, depending on how many and what kinds of food producers are participating (not all the producers participate every time, and they offer different products, e.g. meat, dairy, and vegetables), on the weather conditions for farming, and on the popularity of certain producers and products with consumers.

As in the previous case, a specific configuration of elements is required for this new mode of food provisioning to take hold. To make REKO food provisioning a reoccurring way of shopping for locally produced food for consumers, it needs to be meaningful, to serve a purpose. For the consumers that engaged in this mode of food shopping it was the "local" character that drew them in. The REKO rings gave the access to an array of locally produced products and allowed them to interact with local producers as well as other consumers. This new mode of food shopping offers a new type of shopping experience. Instead of the standardized shopping routines of big supermarkets, REKO offers a small-scale communal experience, whereby consumers enjoy themselves as they digitally discover locally produced food, in addition to rummaging at the pick-up site:

Alva: Shopping with REKO is actually more fun than going to an ICA store. Because it's a bit, well you can rummage, and see what they have there, and compare and so on. So it's, I think it's more fun …/ I also think, and this might be ridiculous, but when I buy honey for example, I can buy several different varieties. From clover honey to linden honey. And that's, a jar like that, costs 50 SEK. And then I order four jars. And you know you have to try all of them. Because I think they look different. They smell different.

REKO rings thus offered a different assortment of products and many used to REKO rings to try out new products and generally as a source of inspiration. Here they could find products that they could not in regular supermarkets. The food also tasted different, they claimed.

Consumers also need to learn to become REKO consumers. This means learning the procedures by which to place an order in the Facebook group, paying for the products (usually digitally) and learning how the pick-up sites are organized and how to navigate them. All this is acquired competence that is essential to being a "proper" REKO consumer. But of course, not all the competence needed to perform REKO food shopping is acquired specifically for this practice. Consumers commonly draw on previous shopping, food, and also digital competence when performing REKO shopping. A good example of this is their preexisting social media competence. The everyday Facebook skills of the consumers thus come in handy for navigating the REKO Facebook group. As Facebook is a well-known social media platform, consumers are competent users of this interface. For instance, they already had accounts and used Facebook regularly to interact with their friends, before joining the REKO Facebook group. After joining the REKO group, they draw on their previous skills and knowledge of how Facebook works in terms of what happens when their friends comment on a post or someone updates a post.

In addition, for REKO shopping to work a material arrangement has to be in place and interconnected. As previously described the organizing of REKO markets is dependent on a social media platform – Facebook – a digital payment platform Swish – and an array of parking lots. In addition, the setting up of the REKO markets involve signs, flags, vests for the administrators and other artifacts intended to facilitate its organization.

REKO shopping, in order to become routinized, also has to be coordinated with other practices and routines. REKO is designed as a service that brings new types of food products to consumers on a reoccurring schedule, i.e. a new week means new local foodstuff to discover and buy. REKO is organized according to a cyclical pattern. For example, if the Facebook group holds its physical pick-up meeting on a Friday afternoon at 5 pm, the consumers will start ordering their products on the subsequent Saturday as the food producers start posting again. The consumers need to continually return to the group as and when they get notifications of new posts there. The popularity of certain food products with consumers, e.g. eggs, will prompt frequent visits to the group in order not to miss out on eggs. Alva describes the popularity of eggs and how she joins in the hunt to get hold of these treasured eggs:

Alva: If you need eggs you have to be fast.

Emma: Well, it's popular, right?

Alva: Mmm. It's very popular. So if you see that one of them has posted about having eggs, then it's important to get your ducks in order. As soon as possible. And damn, they run out in no time.

Also, the REKO way of shopping for food affects how it is cooked and eaten by households. Changes in households' diets happen as products from REKO are introduced into these households' meal routines. A family of four have started to cook entirely different meals. The mother of this family prefers to introduce new types of vegetables and to make recipes that involve the food she buys from REKO, while the daughters prefer to keep to their old habits and cook food they are accustomed to. For instance, the daughters enjoy their instant macaroni instead of dishes involving kale or pumpkin. Christina and one of her daughters, Johanna, explain how they do food and cooking:

Christina: My children are tired of my cooking. They make their own food. They have instant macaroni. I'm not the one to buy that kind of food.

Johanna: Okay. Yes, but REKO is good. I like their thinking and what they do… /… mom makes special food.

Emma: Yes. Food you don't like …?

Johanna: Yes, food we don't like.

Here, we see how the establishment of a new shopping routine also comes to affect routinized cooking and eating practices. As this new shopping routine is intertwined with cooking and eating routines, it becomes more stabilized, now held in place, at least partly, by other household food practices. Conversely, the success of this transformed cooking and eating will impact upon the stability of the REKO shopping mode. If the new dishes were to be discarded, perhaps so too would REKO shopping.

4.3. The Karma shopping routine

The Karma app is a food aggregator platform that offers food that is about to expire, from multiple outlets, to consumers at a reduced price. Restaurants, coffeehouses and supermarkets, as well as small specialist stores, upload their offers on meals or food products. Karma is thus designed to help businesses sell their surplus food and, in doing so, avoid food waste. It is also designed to enable consumers to buy food at a discount and to thus help to reduce food waste. Consumers locate food using a map of the city where the active outlets are shown; by clicking on each outlet, consumers can see what is on offer, how many items are left, and at what price these items are on sale. Consumers can also see the time slot when the last purchase was made. Also, consumers can mark certain outlets as favorites and then get notifications as soon as these favorites have an offer.

For Karma food shopping to become routinized, it has to be meaningful. The Karma app is meaningful to consumers in that it provides them with access to the food they normally buy, but at a discount. For example, Karma provides consumers with different lunch options from their favorite lunch restaurants, and consumers see this as good food for less:

Hanna: Yes and the offer is good and there's no reason to be….You may be a bit stingy too, or well maybe you think it's completely unnecessary to go and buy one of today's lunches at the normal price when you can buy a good meal made yesterday for half the price.

Also, Karma offers ways for consumers to indulge in food they do not normally buy. Buying this type of food, at a reduced price, is about pampering yourself. For instance, consumers buy quality food at a cheaper price, e.g. bread from a premium bakery, which they can enjoy for breakfast on busy weekday mornings, or when they have people over for coffee and pastries (Swedish fika) in the afternoon. Consumers can also use Karma to indulge themselves by hoarding food they had not planned to buy; here, they are spurred into action by the notifications on the digital interface that are used to draw attention to newly added offers:

Gabriella: And in the beginning, because then it was like I said, as soon as I got a notification from Karma on my phone, I went there.

Emma: Yes, you had a look at the offers?

Gabriella: Yes, exactly. And then, do I really need it? Yes, but I may need some mousse cake. It's like, well, because it's cheap.

Thus, Karma food shopping is also something consumers do because it is fun. Consumers treat Karma shopping as a form of routinized bargain hunting. In addition to being economical and enjoyable, other consumers stress the sustainability aspects, framing their Karma food shopping mainly as a sustainable mode of food shopping that allows them to combat food waste.

In addition to being meaningful, and in order for Karma shopping to become routinized, the consumers recruited into the practice also have to develop the competence they need to use the app and engage in this new mode of food provisioning. The managing of notifications on the interface is a way for consumers to develop their competence regarding how Karma works and how they can best make use of it to fit with their everyday routines, e.g. lunch breaks. Here, the digital interface promotes routinization, and consumers quickly learn how to change the settings to mark restaurants as favorites and to check the setting of notifications to ensure they get relevant and timely updates in order to access the food they enjoy for lunch each day. The Karma app also has very clear instructions on how to pay for the food and pick it up. Easy step-by-step instructions are very accessible both, in the Karma app and on the website.

4.4. Carving out space for the digitalized shopping routines: replacing, complementing and reconfiguring

As previously mentioned, the establishment of a new mode of food provisioning often has to carve out its own space among already existing food shopping routines. How does this happen in the case of the meal box schemes? And what determines the route taken?

The way in which new digital food provisioning platforms relate to existing modes of food shopping varies; however, in all three cases, this relationship was already inscribed in the mode of food provisioning proposed. This becomes particularly apparent in the case of meal box schemes. The meal box schemes were designed to *replace* existing grocery shopping (and cooking practices). As mentioned above, this was one of the selling points of the service, in fact. When consumers signed up to meal box schemes, they did not have to go grocery shopping at the same rate. This becomes clear when the meal box service fails:

Anders: We haven't experienced a lack of stuff, or well, we experienced it once, when something went wrong with the distribution… / all the meat products, well they weren't delivered… / and they'd probably counted it wrong, and for someone like me using this service to replace visits to the supermarket, well, this made me unhappy, and then there was a text message informing me that they were going to deduct the price. But to me, the valuable thing is not the money, it's avoiding a shopping trip to the supermarket, ha ha so it turned out well, now I have to go shopping, and no you don't know if they have exactly this or that in the store. Well, I got quite angry actually and I called them and explained how I felt and, well, they understood and then they gave me even more deductions, but, well, I had to go shopping anyway, but not on Monday, on Tuesday because my refrigerator was empty.

In this interview extract, we can see that part of the value of this service to the consumer lies in his/her weekly grocery shopping trips, for many a tedious and time-consuming practice, being delegated to the meal box scheme. Thus, while consumers are able to use these digital platforms in other ways than those prescribed, the built-in integration strategy of the digital platforms clearly shapes both the interactions and the way these come to relate to existing food shopping routines. For the most part, the meal box schemes worked thus to replace existing grocery shopping routines.

REKO food shopping on the other hand were thought of as a complement everyday grocery shopping. REKO shopping offers consumers the opportunity to buy a specific set of products "locally". Common examples include meat and egg:

Britta: So we have basically stopped buying meat in normal stores. That's probably the biggest change. And I only buy eggs in normal stores when I haven't had the energy to order from REKO.

Here, we clearly see that REKO does not quite manage to replace grocery shopping, instead merely becoming a complementary mode of food provisioning. Consumers add an outlet and a mode of shopping to their already established shopping modes. REKO shopping is intended to provide local foods but of course their everyday food consumption involves and indeed requires more than local foods. It is neither practical nor desirable for the consumer involved in REKO shopping to delimit their consumption to the available REKO products. Instead, this add to their food consumption, providing an assortment of local products that are seen as tastier and often also more sustainable.

Fig. 1. The local REKO market.

In contrast to the other two digital food platforms analyzed, the Karma food platform is not primarily designed to either replace or complement existing modes of food provisioning. Instead, the built-in integration strategy is to reconfigure existing food shopping modes. Consumers continue purchasing take away food, but do it via the Karma app. They will continue to shop for groceries in their local stores, but they will use, when offers match, the Karma app to buy certain items at a discount. Karma is designed to mediate these "regular" and routinized food shopping practices, reconfiguring rather than drastically changing what is done, or how. They are designed to turn routinized food shopping modes into more economical, more enjoyable, and more sustainable versions.

Fig. 1

However, reconfiguration is accompanied by changes. The routines reconfigured change in a number of ways when the Karma platform is involved. A visit to a nearby restaurant turns instead into a take-away run from the same restaurant because of a Karma offer. A restaurant that was previously visited only once a week, before being connected to Karma, is frequented more often as new Karma offers make it a more economical option. Similarly, consumers reported buying more bread or pastries as a result of becoming increasingly aware of the favorable offers available via the Karma platform. Also, the use of Karma, in some cases, did lead to consumers preparing fewer lunch boxes and instead buying more take-aways, as the economic difference was no longer so great because of the Karma offers. These shifts, driven by the introduction of the Karma app, reconfigure the existing modes of food provisioning but do not replace them (as in the case of the meal boxes). Neither can the Karma mode of food shopping be seen as a new mode of food provisioning (as in the case of REKO). Instead, the Karma digital platform reconfigures both lunch provisioning and grocery shopping, reorganizing these modes of food provisioning as they become 'Karma-fied'.

In each of these cases – replacing, complementing, and reconfiguring - the establishing of a new routine faced a specific set of challenges. These challenges were in turn linked to the structure of the new routine established and its position in the nexus of everyday practices. The temporalities of the new routine were important. That is, the sequence of actions involved, their duration and the intervals by which they are performed mattered. Furthermore, the complexity of the routinized practice and the nexus of practice it was connected to was also crucial. The level of complexity was connected to issues such as the number of household members that have to be coordinated in the performance of the practice, the number of intersection and interconnecting practices requiring synchronization (or example leisure, work, or other domestic practices) and difficulties to secure access to the resources required for the practice.

In the case of Meal boxes, this new mode of food provisioning replaced a frequently performed routine - daily or weekly grocery shopping – that often involved multiple household members. Moreover, meal box food provisioning was connected to and had to be coordinated with a number of food practices (such as cooking, eating, storing and disposing food) as well as non-food practices (including picking-up and dropping of children to various leisure activities, exercise practices, and various medical appointments). This mean that while the shopping routine existed in a precarious state due to its position in the complex web of everyday practices. It was a routine that was constantly at risk of being discontinued as the result of changes in the multiple elements it involved and the multiple practices it was linked to.

In the case of REKO-ringar, the challenge was different. Here it was not so much the coordination with other everyday practices that was challenging (although this also posed difficulties for our informant at times) but rather the development of a new shopping routine with a novel stand-alone temporality. Establishing the REKO-ring routine required consumers to learn and put into place a new temporality that did only loosely link up with other routines. Consumers had to remember to check the REKO-ring Facebook groups for new offers, place orders, pay for them and the pick them up every other week. It was not uncommon for consumers to forget to place order or forget to pick them up when the pick-up event came around. A new sequence of actions, carried out at different times and requiring timing to be performed successfully. To support the routinization of this new mode of food provisioning consumers would link it to other recuring food practices - such as weekly food shopping - and also link it to routinized social media use – setting for example notifications for new posts in the REKO Facebook group.

Finally in the case of the Karma-app, the challenge revolved not around the coordination or establishment of routines but was instead connected to the altering of routines. Very few informants used Karma on a daily basis. This was in part due to the limited supply of restaurants, cafes and stores connected to the platform and the unpredictable assortment available through the app. So, while the use of the Karma app was routinized in that the sequence of actions performed and their order was always the same (a linear rhythm), the performance of Karma-provisioning did for most informants not follow an established interval (cyclical rhythm). This ad hoc use led to less frequent use, which in turn weakened the routinization of Karma provisioning. Moreover, because few had an established daily or weekly Karma routine, this meant that for the Karma routine to be performed it had to be inserted to an already routinized food shopping practice – such as going out for lunch with colleagues – and alter that routine, temporary reconfiguring it. The Karma routine was, because of this, in constant competition with other food shopping routines.

5. Discussion

We have shown that, although the shopping routines promoted and enabled by these digital platforms are different in terms of the services offered, they all manage, at least to some extent and during a specific time period, to establish a new food shopping routine. To accomplish this, specific combinations of meanings, materialities and competencies had to be interlinked and configured to enable the recurrent reproduction of a shopping practice mode.

Our analysis also illustrated that there are multiple ways of carving out a space for new (food) shopping routines. The digital platforms studied, and the modes of food shopping they enabled, were able to replace, complement or reconfigure already established food shopping practices. While a digital food platform could lead to all three, it was clear that each digital platform came with a socio-material script that made one of these digital integration strategies more likely than the others.

However, while these new modes of food provisioning became routinized, there were no guarantees that they would remain so over time. In many cases, only a temporary stabilization was possible due to built-in dynamics entailing that the shopping routine could not last. These challenges were linked to the structure of the new routine established and its position in the nexus of everyday practices. Because of these different processes of routinization entails different challenges. Or, phrased differently, the conditions for establishing new food shopping routines were different depending on the routine and the position it occupied in the practice nexus of households.

What does this mean for efforts to promote sustainable food consumption? It highlights, like also previous studies have done, the difficulties involved in trying to change food consumption. It adds however to this discussion by showing that while household food consumption was routinized, it was not static. While food consumption has often been portrated in previous research as stable and of a routinized nature (Dyen et al., 2018; Plessz, Dubuisson-Quellier, Gojard, & Barrey, 2016), this study suggests that the level of stability and immutability of households' everyday food practices, only provides a part of the picture. Indeed, while many discursive and material elements seem to hold household food consumption practices in place, the complexity and interconnectivity of household practice can also bring about change. Indeed, routine change seems to be normal. Serial routinization seems to characterize households' food consumption. As one food shopping routinize is disrupted, or dissolves, another one quickly replaces it. The routinized nature of food consumption remains even though the specific routines change. This suggest that the important challenge is not necessarily to change routines, as pervious research suggest, but to stabilize the change.

For those trying to enable sustainable consumption by breaking unsustainable food shopping routines and establishing new, more sustainable versions, this presents a major problem. Our analysis suggest food shopping routines can be indeed be changed, for example with the aim of enabling more sustainable food consumption. However, the analysis also indicates that the stabilization of such a new food shopping routine over time is difficult to accomplish.

Beyond the field of food consumption, the analysis also suggests that digitally enabled efforts to bring about sustainable consumption need to take into account the complexity of household practices and routines (see also, Fuentes and Samsioe 2020). While the digital platform and its architecture can be crucial in establishing and enabled new sustainable modes of consumption, their failure or success also hinges on the understanding of the practice context that they are expected to be integrated into (see also, Fuentes, Cegrell, & Vesterinen, 2021).

6. Conclusions

In sum, making use of practice theory, and drawing on an ethnographically-inspired study of three digital food platforms, our paper has explored how and under what conditions the use of digital food provisioning platforms becomes routinized.

The analysis illustrated how three digitally enabled food platforms worked to enable new and supposedly more sustainable modes of food provisioning. We showed how the platforms promoted and enabled new digitalized shopping routines, the elements needed to (temporary) stabilize these new routines, and how they managed to carve out space for themselves in the complex everyday practice nexus of consumers by replacing, complementing and reconfiguring existing food shopping routines.

Pushing the analysis further we also discussed the various challenges efforts to stabilize new digitalized food shopping routines faced and how these connected to the structure of the routine and the complexity of the practice nexus in which the new routine was positioned.

Finally, we discussed what this means for the enabling of sustainable food consumption and, more generally, for the digital enabling of sustainable consumption, arguing for the need to acknowledge and understand the role of household (food) routines and practice nexuses.

To conclude, this paper can be understood as part of broader body of practice theory influenced work that analyses consumption with the aim of understanding both the mechanisms that drive unsustainable consumption and efforts to enable more sustainable modes of consumption (for overviews, see Evans, 2019; Geels, McMeekin, Mylan, & Southerton, 2015). Like other practice-based studies in this field, this study has highlighted the need to understand consumption (or in this case provisioning) as the result of practices. From this perspective, demand for goods is driven and shaped by multiple and often interlinked practices. To understand consumption and how to change it we therefore must understand the nexus of practices from which various modes of consumption are generated. From this vantage point, the goal is to understand and change practices, not consumers (Southerton, 2013). And bringing about this practice change often involves, as our analysis makes clear, taking account multiple elements as well as the spatial-temporalities that shape them. Hopefully, this paper has contributed to this body of work in some small way by developing the concept of shopping routines and empirically exploring in more detail how and under what conditions shopping routines develop and are (de)stabilized.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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Supplementary materials

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