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Online Grocery Shopping in Germany: The Impact of COVID-19

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Table of Contents

Abstract

Online grocery shopping has shown a strong growth in the past years and is expected to further develop in the future, especially through the influence of COVID-19. The main purpose of this study was to examine six theoretical customer-oriented factors and their influence on consumer online grocery purchase intention. Additionally, this study compares consumer perceptions before and since the COVID-19 outbreak. Since the health crisis is very recent, the research on its impact on online grocery purchasing behavior is limited. A total of 402 valid questionnaires were collected in Germany. The data was analyzed using the software SPSS IBM 28. The results indicate that the factor 'perceived risk' still has a negative influence on purchase intention and remains relevant in online grocery shopping. However, the consumer's perceived risk is considered lower compared to pre-COVID since the health crisis. Perceived usefulness, perceived ease of use, perceived trust, convenience as well as situational factors were found to have a positive relationship with purchase intention, both before the COVID-19 crisis and since then. The COVID-19 pandemic shows a strong reduction in perceived risk, while the remaining characteristics increase in moderate levels. Online grocery businesses could use the insights of this study to reduce perceived risks as well as successfully communicate benefits of online shopping to consumers.

Keywords: Behavioral Science, Consumer behavior, E-commerce, Online Grocery Shopping, Perceived risk, Situational factors, COVID-19

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1. Introduction and Objectives

The COVID-19 disease refers to an infection (SARS-CoV-2), which was first detected in Wuhan (China) in December 2019 (Hao et al., 2020). Since then, the number of infections has been rising globally each day. In March 2020, the World Health Organization (WHO) announced the COVID-19 outbreak as a global pandemic (World Health Organization, 2020). The COVID-19 disease can be seen as one of the greatest health crises in modern history and influences consumer behavior (Deloitte, 2020).

The pandemic has changed the grocery market in Germany in unprecedented ways (Dannenberg et al., 2020). In March 2020, the German federal government decided to close 'non-essential' shops in order to contain the pandemic. Grocery stores were allowed to remain open under strict hygiene conditions. The food shopping behavior of consumers have undergone remarkable changes since the outbreak of COVID-19 (Dannenberg et al., 2020). The imminent threat of COVID-19 that overwhelmed Germany animated panicked shopping behaviors which resulted in stock-outs and purchasing limits on many food items (Martin-Neuninger & Ruby, 2020). As a result of food businesses closing, grocery retailers have largely benefited from the crisis, especially during periods of lockdowns (Ackermann et al., 2021). Consumers attempted to avoid shopping in stores and used more intensively grocery delivery and pick-up services during the beginning of the crisis. Therefore, the pandemic has brought a boom to online grocery shopping (henceforth OGS) even though food retailers remained open (Dannenberg et al., 2020). Customers are increasingly willing to order groceries online (Dannenberg et al., 2020; Wachinger et al., 2020). According to a study of PwC, 22% of the German participants use online as a primary channel for shopping groceries. 52% have started to purchase more groceries online during the COVID-19 pandemic and more than 82% of consumers are planning to continue to do so (PricewaterhouseCoopers, 2021). Main reasons for buyers are the convenience of a fast delivery, time savings and health concerns (Deloitte, 2020). Nevertheless, in comparison to product categories such as fashion, consumer electronics and books, OGS is

still in a niche (Hansen, 2008). Although many consumers have adopted purchasing groceries through online channels, there is still a large group of customers refusing this way of buying (Bauerová, 2021; Hansen, 2008). Even though grocery purchases account for a large proportion of consumer spending (Ramus & Nielsen 2005), the online sector has been unable to gain traction. This is especially the case for the German market where the share of food purchased online is about 1% of the total 125.3 billion euros (Deloitte, 2020). According to a study of Deloitte (2020), only 31% of German participants have purchased groceries online before the crisis.

As e-commerce is becoming an increasingly important marketing and sales channel worldwide, also reinforced by the COVID-19 pandemic, it is of high priority for the German market to better understand the factors influencing consumers' online purchasing behavior concerning groceries. The insights gained from this study can help grocery retailers to respond appropriately to consumers' expectations and reservations. Adoption reasons of online grocery consumers are also of high interest for established companies as well as start-ups to successfully increase their online sales and remain/become competitive on the market.

This study aims to address two research gaps in existing literature on OGS. First, the most prominent factors in the literature (Hansen, 2006; Kim & Song 2010; Perea y Monsuwe et al., 2004; Ramus & Nielsen, 2005), namely risk, ease of use, usefulness, trust as well as convenience and situational factors were selected in order to analyze their influence on purchase intention since the outbreak of COVID-19. However, the influence of situational factors such as the COVID-19 pandemic (Bauerová, 2021), have not been thoroughly investigated in research on OGS and requires further research (Hand et al., 2009). Second, the study makes a significant contribution to the literature by comparing consumer perceptions before and since the outbreak of COVID-19. Since the health crisis is very recent, the literature on its impact on online grocery purchasing behavior is limited.

In the following, this study starts with a brief insight into the existing literature on OGS, followed by an explanation of purchase intention and a description of the employed constructs.

2. Literature Review

2.1 Online grocery shopping

Over the past decade, the development of the internet has changed everyday's life of the society (Bauerová, 2021; Seitz et al., 2017). The internet has become a major distribution channel, where customers have the possibility to browse through e-shops at any time and from any place; there are no limitations regarding localization and opening hours (Hanus, 2016). OGS has enjoyed strong growth the last several years and it is predicted that this channel will continue to grow rapidly in the upcoming years (Mortimer et al., 2016; Nielsen, 2015; Nielsen & Food Marketing Institute, 2018). According to research by Nielsen, it is likely that by 2024, up to 70% of customers will buy groceries online (Nielsen & Food Marketing Institute, 2018). Depending on the development of individual purchases in the online environment, OGS can be seen as one of the most dynamically developing categories (Bauerová, 2021; Ramus & Nielsen, 2015). The experience of buying groceries online is different from other forms of online shopping due to product perishability and variability (Mortimer et al., 2016). Consumers select grocery items on a web page instead of choosing items from a supermarket shelf (Hand et al., 2009). The online environment is missing elementary parts of the offline experience, such as touching and smelling of products as well as the personal contact to employees to get assistance (Hand et al., 2009). According to Hansen (2005), the process of ordering groceries can be seen as a discontinuous innovation as it contains technological advances as well as changes in consumer behavior. This implies that the adoption process of buying groceries online might take longer and is possibly more difficult for consumers than in cases of continuous innovations (Hand et al., 2009).

Although OGS has already been identified as a dynamic category of the online market in recent years, the COVID-19 pandemic has further intensified this trend (Baarsma &

Groenewegen, 2021; Bauerová, 2021; Wang et al., 2020). Consequently, presence in the digital marketplace as well as addressing new customer expectations are essential for retailers in order to retain existing customers and attract new ones in an extremely competitive environment (Seitz et al., 2017). Understanding consumer behavior when purchasing groceries online is essential for businesses, even more so through the pandemic, and is therefore at the forefront of companies and researchers (Baarsma & Groenewegen, 2021; Hanus, 2016). However, while online shopping in general has attracted an abundance of research interest, investigations of OGS are limited. Previous research has focused on consumer's expectations (Ramus & Nielsen, 2005; Teo, 2006), advantages and disadvantages (Verhoef & Langerak, 2001), several factors influencing online shopping behavior (Cho & Sagynov, 2015; Huang & Oppewal, 2006; Lim et al., 2016), technology acceptance as a determining factor of OGS adoption (Bauerová & Klepek, 2018; Chen et al., 2002), benefits and challenges of OGS (Cho, 2011; Huang & Oppewal, 2006) as well as the influence of demographics (Bauerová 2021; Hansen, 2005).

2.2 Intention to shop groceries online

Several research perspectives have been proposed to understand consumer online shopping behavior, including the theory of planned behavior, the technology acceptance model, the theory of adoption of innovations, as well as the influence of variables such as perceived risk and convenience (Hansen et al., 2004; Hansen, 2008; Wu, 2006). One of the most known social psychology theories about the way perceptions influence actions is Ajzen's theory of planned behavior (TPB) (Ajzen, 1991), which is an extension of the previously widely used theory of reasoned action (Fishbein & Ajzen, 1975; Ramus & Nielsen, 2005). A central element in the theory of TPB is the *intention* of an individual to perform a given behavior (Ajzen, 1991). The consumer purchase intention is essential for consumer behavior and the decision-making process. According to the TPB model, the intention to perform an action is influenced by three factors: attitude, subjective norm, and perceived behavioral control (Ajzen, 1991). According to this theory, the intention of an individual is the best predictor of the actual behavior. The

theory of TPB have been applied in several studies and seem suited for the purpose of investigating and predicting consumer online grocery purchase intentions (Hansen et al., 2004; Hansen, 2008; Ramus & Nielsen, 2005; Wu, 2006). Research shows that online consumers perceive difficulties while shopping online and it has been suggested that shopping in an online environment does require skills, opportunities, and resources (Hansen et al., 2004; Hansen, 2008). Moreover, consumers may perceive the process as too complex and risky when performing online shopping (Hansen et al., 2004; Hansen, 2008). Consequently, consumer's purchase intention is a vital factor in the context of this study and is treated as the *dependent variable*.

2.3 Perceived risk

One major difference between OGS and offline (in-store) shopping is the higher perceived risk (henceforth PR) when shopping online (Hansen 2005; Iriani & Andjarwati, 2020; Pauzi et al., 2017; Van den Poel & Leunis, 1999). Hansen (2006) highlights in his construct of perceived internet grocery risk that PR for inexperienced online shoppers acts as a barrier for future online purchases. It is defined as the extent to which an individual believes using the internet for grocery purchases is insecure or has negative consequences (Hansen, 2006). Therefore, specific types of risk regarding OGS are taken into account.

PR includes several factors such as personal data security, delivery issues, lower quality of products than expected and difficulties regarding the return and exchange process (Hansen, 2005). With regards to data security, research emphasized that consumers have transactions risks when purchasing online as well as privacy concerns (Hansen, 2005; Lim, 2003; Pauzi et al., 2017). These concerns contain the unauthorized acquisition of personal information during the online buying process (Pauzi et al., 2017). However, this kind of risk decreases after customers gain confidence when buying online (Hansen, 2005; Huang & Oppewal, 2006). Regarding the delivery process, late deliveries can be seen as one of the main issues when ordering online (Mortimer et al., 2016). If the delivery is delayed, consumers will be disappointed and may no longer want to buy groceries online in the future. (Huang & Oppewal, 2006; Jiang et

al., 2013). Another reason for a low uptake might also be the delivery fee that retailers charge (Huang & Oppewal, 2006). Furthermore, the packaging and transport of the products, especially for the more fragile items, is also a significant factor when purchasing online (Jiang et al., 2013; Ramus & Nielsen 2005). Moreover, the quality of the products is one of the main concerns of customers when purchasing groceries online. Additionally, an important factor of consumer's intention to purchase groceries online relates to the fear about the selection of perishable groceries such as fruits, vegetables, or meat (Hanus, 2016; Ramus & Nielsen, 2005). Customers cannot assess and select the products themselves and therefore have no possibility to see, smell and touch the products beforehand (Bauerová, 2020; Huang & Oppewal, 2006). Purchasing fresh products is linked with knowing product expiry dates, which is impossible online (Hanus, 2016). Even though grocery retailers may guarantee to sell high quality products, preferences still vary among consumers, leading to the risk that the delivery may not fulfill one's expectations (Huang & Oppewal, 2006; Mortimer et al., 2016). A last important factor is the concern regarding the return and exchange of products purchased online. Consumers do not buy groceries online if they think that the return and exchange of products will be complex (Hansen, 2006; Jiang et al., 2013; Ramus & Nielsen, 2005).

In order to understand to what degree PR of online shopping influences the consumer's intention to purchase groceries online rather than offline, the following hypothesis was formulated:

> *H1a: The PR of online shopping negatively influences the consumer's intention to buy groceries online since the outbreak of COVID-19.*
> *H1b: The PR of online shopping is lower since the outbreak of the COVID-19 pandemic compared to pre-COVID-19.*

2.4 Perceived usefulness and Perceived ease of use

Behavioral intentions and attitudes toward e-shopping have been widely supported by the technology acceptance model (TAM) (Cho & Sagynov, 2015; Davis, 1989; Hansen, 2006). The model was developed in order to predict 'technology acceptance', which can be visualized

as the psychological state of an individual with regard to their intended purpose of a particular technology (Hansen, 2005). In order to change the perception of online shopping, research addressed consumers' willingness to change behaviors and attitudes by concentrating on *perceived usefulness* (henceforth PU) and *perceived ease of use* (henceforth PEOU), as these are the key variables in the TAM model (Bauerová & Klepek; 2018; Cho & Sagynov, 2015). PU is defined as the degree to which an individual believes that using a particular technology would improve his or her performance or productivity (Cho & Sagynov, 2015; Davis, 1989; Perea y Monsuwe et al., 2004). In addition, PU could also be defined as the degree to which an individual feels the online website could add value and efficacy when performing online shopping (Lim et al., 2016; Ramadania & Braridwan, 2019). PU of the website depends on the efficiency of technological features such as advanced search engines, personal service, and detailed product information (Kim & Song, 2010; Lim et al., 2016).

The second variable, PEOU, is defined as the degree to which an individual believes using a new technology is free of effort (Cho & Sagynov, 2015; Davis 1989). Within the OGS context, it means that ordering groceries online for consumers is perceived as effortless and easy (Bauerová & Klepek, 2018). PU refers to consumers' perceptions of the experience's outcome and PEOU refers to their perceptions of the process leading to the final outcome (Cho & Sagynov, 2015; Perea y Monsuwe et al., 2004). In particular, PU describes how effective online shopping is in supporting consumers in accomplishing their task, while PEOU describes how easy the internet as a shopping medium is to use (Perea y Monsuwe et al., 2004).

The TAM model has been tested and validated by extensive research and proven to be suitable as a theoretical foundation for the adoption of e-commerce (Chen et al., 2002; Lederer et al., 2000; Moon & Kim, 2001; Perea y Monsuwe et al., 2004). Research shows that it is appropriate to draw analogies between online shopping and the variables of the TAM model,

as it has been widely used in the study field of online user behavior (Cho & Sagynov, 2015; Davis et al., 1989; Lim et al., 2016).

The following hypotheses were formulated based on the literature review:

H2a: PU of online shopping positively influences the consumer's intention to buy groceries online since the outbreak of COVID-19.
H2b: PU of online shopping is higher since the outbreak of the COVID-19 pandemic compared to pre-COVID-19.
H3a: PEOU of online shopping positively influences the consumer's intention to buy groceries online since the outbreak of the COVID-19.
H3b: PEOU of online shopping is higher since the outbreak of the COVID-19 pandemic compared to pre-COVID-19.

2.5 Perceived trust

One of the most frequently quoted reasons for consumers not shopping online is the lack of trust (Lee & Turban, 2001; Parea y Monsuwe et al., 2004). Trust can be defined as the willingness of an individual to depend on a partner's behavior in a relationship (Beldad et al., 2010; Ha et al., 2016; Nghia et al., 2020). According to Rotter (1971), individuals rely on their general disposition of trust when in novel situations. The most important source of trust in a retail setting is the salesperson, where consumer trust is dependent on the salesperson's expertise, likeability, and similarity to the customer (Doney & Cannon, 1997; Perea y Monsuwe et al., 2004; Raman, 2019). In the online shopping context, the role of the physical salesperson is replaced by help buttons and search features, thus removing the basis of trust in the shopping experience (Cho & Sagynov, 2015, Raman, 2019). Moreover, trust is considered an essential construct in online shopping, as consumers face risks caused by the uncertain behavior of online retailers and an unknown environment (Kim & Koo, 2016; Nghia et al., 2020). For example, risks linked to payment, product, information, and time impact consumer's intention to purchase online negatively (Nghia et al., 2020; Raman, 2019). Consumers cannot check the quality of a product physically or monitor the safety and security of sending personal and financial information while purchasing online (Cho & Sagynov, 2015; Lee & Turban, 2001; Perea y Monsuwe et al., 2004). Previous literature showed that trust has a positive effect on the intention to shop online

(Lu et al., 2016; Mansour et al., 2014; Raman, 2018). Therefore, the following hypotheses are proposed:

> *H4a: Perceived trust of online shopping positively influences the consumer's intention to shop groceries online since the outbreak of COVID-19.*
> *H4b: Perceived trust of online shopping is higher since the outbreak of the COVID-19 pandemic compared to pre-COVID-19.*

2.6 Online shopping convenience

According to different research, perceived online shopping convenience can be seen as one of the main benefits for consumers to purchase groceries online (Colwell et al., 2008; Jiang et al., 2013; Moeller et al., 2009). The key principles in shopping convenience are the reduction of opportunity costs, effort and time involved in shopping activities (Jiang et al., 2013; Ramus & Nielsen, 2005; Seiders et al., 2005). Main factors for consumers to shop online are the possibility of shopping at any time from any place as well as the convenience of staying home (Hanus, 2016; Jiang et al., 2013). Shopping online can be seen as less stressful than going to the grocery store during rush hours and having to experience long waiting times at the cashier (Hanus, 2016). Moreover, consumers do not need to carry their purchases home, as they get their groceries directly delivered to their home (Jiang et al., 2013; Ramus & Nielsen, 2005). It is not that the shopping itself is more efficient, but time and energy saved when buying online (Ramus & Nielsen, 2005). Furthermore, avoiding crowded places (grocery stores) by switching to online purchasing can be seen as a benefit, as it allows to protect oneself and others since the beginning of the COVID-19 pandemic (Koch et al., 2020). Especially the delivery option is highly valued by older consumers, families with children and consumers with physical disabilities (Hanus, 2016; Ramus & Nielsen, 2005). Furthermore, online consumers can compare product costs online without physically visiting multiple stores (Jiang et al., 2013; Raman, 2018). However, one barrier that consumers face when purchasing online is the learning process of shopping on a specific webpage. The design and the use of the website needs to be simple and comprehensible, otherwise consumers will drop the purchasing process and prefer shopping

in-store. Online grocery consumers demand user-friendly websites since they often lack assistance from salespersons (Jiang et al., 2013). Furthermore, late deliveries, incorrect deliveries and time-consuming returns and exchanges reduce the convenience of online shopping (Jiang et al., 2013).

The following hypotheses are presented in order to investigate to what degree online shopping convenience influences the consumer's intention to purchase groceries online while also taking the pandemic into account.

> *H5a: Online Shopping Convenience positively influences the consumer's intention to buy groceries online since the outbreak of COVID-19.*
> *H5b: Online Shopping Convenience is higher since the outbreak of the COVID-19 pandemic compared to pre COVID-19.*

2.7 Situational factors (COVID-19)

In recent years, studies have examined the influence of situational factors (henceforth SF) regarding online shopping (Bauerová, 2021; Gillett, 1976; Hand et al., 2009). Specific needs or circumstances, such as avoiding spending effort and time on an extra trip to buy a needed product are often motives to use online shopping (Gillett 1976; Hand et al., 2009). Furthermore, SF such as health problems or having children are triggers for beginning to purchase groceries online (Harris et al. 2009). According to the research of Hand et al. (2009), SF such as lifestyle changes (e.g. relocation) are key triggers to start online shopping. Currently, the most visible situational factor is the outbreak of the COVID-19 pandemic, which has affected the consumer behavior and decision-making worldwide (Bauerová 2021; Koch et al., 2020). In Germany, Spain and Italy, grocery sales increased about 20% during the beginning of the first lockdown in March 2020 (Herbert et al., 2020). The rapidly spreading virus encouraged panicked shopping behaviors that resulted in stock-out and purchasing limits of many food items, offline as well as online (Bauerová, 2021; Dannenberg et al., 2020). The restrictions (e.g., 'stay at home') imposed by the government during lockdown periods lead to an increase in both online and local grocery shopping. The shutdown of restaurants and cafés altered consumer

food expenditures leading to a shift from gastronomy to grocery retail (Ackermann et al., 2021; Dannenberg et al., 2020). These measures resulted in a rapid use of online shopping, including groceries (Dannenberg et al., 2020). Moreover, with increasing insight about infections risks and safety measures, consumers preferred to avoid crowded shops to protect themselves and therefore switched to buying groceries online (Ackermann et al., 2021; Hao et al., 2020; Martin-Neuninger & Ruby, 2020). The latest studies highlight, that the pandemic has a positive influence on buying groceries online (Baarsma & Groenewegen, 2021; Dannenberg et al., 2020; Hao et al., 2020). According to a study of McKinsey & Company, 32% of the participants have started buying groceries online since the beginning of the pandemic in Germany (Barchet et al., 2021). Convenience, time savings, increased selection online, as well as health concerns are mentioned as the main benefits of purchasing goods online since the beginning of the pandemic (Ackermann et al., 2021).

To investigate in what degree the SF influence the consumer's intention to shop groceries online rather than offline, the next hypothesis was formulated:

> *H6a: SF positively influence the consumer's intention to buy groceries online since the outbreak of COVID-19.*
> *H6b: SF have a higher influence since the outbreak of the COVID-19 pandemic compared to pre-COVID-19.*

3. Method

3.1 Procedure and Sample

The data was collected by using an online survey which was created with the Qualtrics survey software. The survey link was shared via the author's Facebook account, in relevant WhatsApp groups as well as via e-mail to reach as many potential respondents as possible. As an incentive, respondents were able to enroll in a lottery for one of 5 amazon gift cards. Furthermore, only people based in Germany were allowed to participate in the study as it only refers to the German market. In total, 402 respondents (68.2% aged 20-25; 9.7% aged 36-49; 19.1% aged 50-65) completed the survey with valid answers. 31 questionnaires had to be

excluded from the analysis due to missing answers. From the 402 valid respondents, 37.7% are male, 62% are female and 0.3% chose “prefer not to say”. A detailed overview of the sample characterization can be found in the appendices (Appendix B). The data was statistically analyzed with the software IBM SPSS, version 28.

3.2 Questionnaires and Measures

From a variety of factors, six were selected that potentially influence a consumer’s intention to shop groceries online. A self-administrated questionnaire was created referring to different measurement scales from the existing literature. The questionnaire was published in German. A standard translation and back-translation procedure was used to ensure the equality of the measurement instruments. Both questionnaires are attached in the appendices (Appendix K & L). All listed variables were measured on a 5-point Likert scale as the attitude measurement, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). An overview of the scales is presented in the appendices (Appendix A). It shows which literature was used as a basis for the measurement of each construct (Risk Pre/Post, Usefulness Pre/Post, Ease of Use Pre/Post, Trust Pre/Post, Convenience Pre/Post, Situational factors Pre/Post) and item.

The questionnaire started with a dichotomous variable asking the respondent whether they had previously purchased groceries online. In the event of an affirmative answer, another dichotomous variable was implemented asking the participant whether they had bought groceries online for the first time during the outbreak of the COVID-19 outbreak. In the following, two multiple choice questions on purchase frequency and initial reasons to purchase groceries online were presented. The questionnaire continued with close-ended questions for all respondents, both derived from the literature and self-constructed. Therefore, a pre-testing was required. The questionnaire was pre-tested on 20 test subjects beforehand to ensure comprehensibility. The closed-ended questions were used to measure consumer perceptions before and after the outbreak of the COVID-19 pandemic as well as purchase intentions towards OGS. Moreover, two control questions were implemented to ensure whether the respondent has answered the

other questions truthfully. Control questions are used to exclude respondents who do not answer the survey seriously from the data analysis. The final part of the survey contained an open-ended question to offer participants the possibility to add any comments or thoughts on OGS. Furthermore, demographic variables such as gender, age and current employment status were queried. Finally, respondents had the chance to enter their email address in order to participate in the lottery.

4. Results

4.1 Descriptive Analysis

Out of all respondents, about 71.7% stated that they have purchased groceries online before and were forwarded to two more questions. More than half of the participants (53.1%) indicated that they purchased groceries for the first time during the outbreak of the COVID-19 pandemic. With regards to the frequency of purchasing groceries online, 24.3% indicated that they purchase groceries "2-3 times a month", while 10.2% stated "once a month" and 9.4% selected "once a week". 13.2% of the respondents stated that they purchase groceries "rarely". Those respondents who had purchased groceries online in the past, were further asked to specify their personal reasons why they started or tried purchasing groceries online. 21% of the previous online grocery shoppers stated: "Outbreak of the COVID-19 pandemic", while 18.2% chose "Grocery Shopping is too tiring" and 23.9% selected "Grocery shopping is too time-consuming". A detailed overview about the frequency of online purchases as well as their personal reasons are attached in the appendices (Appendix C & D).

4.2 Reliability Analysis

Reliability is a test quality criterion and indicates how reliably a test measures a certain characteristic, indicated by Cronbach's alpha. If the characteristics are stable, it is expected that the same results will be obtained with repeated measurements. For this reason, a high degree of reliability means that the follow up tests are independent of random fluctuations and environmental conditions. According to the literature, an alpha value higher than .70 indicates internal

consistency at an acceptable level, an alpha value higher than .80 indicates consistency at a good level and an alpha value higher than .90 indicates internal consistency at an excellent level (Peterson, 1994). For instance, PR Pre (.87) and Post (.83) show an alpha on a good level, while Trust Post (.94) and Convenience Post (.91) demonstrate an alpha on an excellent level. The scale's reliability values are in a range between .69 and .94, showing that the reliability of the measurement can thus be rated from sufficient to excellent. All reliability measurements can be taken from Appendix E.

4.3 Hypothesis Testing

The hypotheses are tested in two steps. First, bivariate correlation analyses according to Pearson are calculated for hypotheses 1a-6a in order to show correlations between purchase intention and the predictor variables as well as possible correlations among the predictors. Subsequently, the purchase intention is placed in relation to the individual predictors and analyzed by means of simple linear regression. Second, for hypotheses 1b-6b, the change in the predictors due to the outbreak of the COVID-19 pandemic is calculated using t-tests with dependent samples.

The magnitude of the effect is interpreted using the recommendations of Cohen (1988). He suggests Pearson's correlation coefficients from a value of .10 as a small effect, from a value of .30 as a medium effect and from a value of .50 as a large effect. In the context of t-tests, reference is made to Cohen's effect measure d, the classification of which he proposes as follows: $d > .30$ small effect, $d > .50$ medium effect, and $d > .80$ large effect.

Starting with hypotheses 1a-6a, the following correlation table shows correlations between the predictors (at the second measurement time point) and purchase intention.

Table 1: Correlation Analysis

	FI	1	2	3	4	5
1 Risk	-.40**					
2 Convenience	.63**	-.27**				
3 Trust	.75**	-.53**	.67**			
4 Usefulness	.78**	-.41**	.82**	.81**		

5 Ease of Use	.69**	-.41**	.75**	.82**	.90**	
6 Situational factors	.58**	-.29**	.72**	.63**	.67**	.63**

* $p < .05$, ** $p < .01$ – two-sided.

It is immediately apparent that PR is negatively correlated with future intention to an intermediate degree. A higher PR is therefore associated with a lower future intention. Furthermore, PR is also negatively correlated with the remaining predictors to a weak to strong extent. Additionally, future intention can be positively related to all other predictors. The strength of the links can be rated as “large” according to Cohen's recommendation.

Thus, in the context of Hypothesis 1a, an expectancy-compliant relationship between PR and future intention can be observed. If future intention is now subsequently made dependent on PR by means of simple linear regression analysis, around 16% variance in future intention can be explained ($F(1, 400) = 77.81$, $p < .05$). With each additional unit in PR, the value of future intention decreases by $b = -.54$ units. Thus, the hypothesis stated can be supported by the present findings. In the course of testing hypothesis H2a, future intention is made dependent on PU. While Pearson's correlation analysis already suggests a positive relationship between the two characteristics, linear regression analysis shows that the value of future intention increases by $b = 1.12$ units for each additional unit in PU. Overall, a variance resolution of about 62% is achieved ($F(1, 400) = 639.37$, $p < .05$). Accordingly, the hypothesis can also be supported by the results described. The next hypothesis (H3a) postulates that future intention is favored by PEOU. While this presumed positive relationship could already be suggested by the correlation analysis, a simple linear regression analysis shows that with each additional unit in PEOU, future intention increases by b = 1.09 units. The proportion of explained variance in future intention amounts to about 48% ($F(1, 400) = 367.51$, $p < .05$). Thus, the established hypothesis can be supported. Another character trait considered is perceived trust as a possible predictor of future intention (H4a). As before, this expectational relationship can already be observed on the basis of the correlation analyses. Based on this, a linear regression analysis

shows that perceived trust increases future intention by $b = 1.03$ units with each additional unit. Moreover, the predictor can explain about 56% of the variance in future intention ($F(1, 400) = 505.22$, $p < .05$). Thus, the hypothesis can also be confirmed. Based on theoretical assumptions, perceived convenience will also have a positive effect on future intention, which could already be indicated by the correlation analysis (H5a). Using simple linear regression, it becomes clear that convenience can explain about 40% of the variance in future intention $F(1, 400) = 266.92$, $p < .05$). In detail, the value of future intention increases by $b = 1.10$ units with each additional unit in convenience. Accordingly, the hypothesis can be supported once again. Lastly, hypothesis H6a relates SF to future intention in a positive way, which were proven in the correlation analyses already. In order to relate future intention to SF, the calculation of the linear regression analysis show that future intention increases by $b = .83$ units with each additional unit in the SF. In total, a variance clarification of approximately 33% is achieved ($F(1, 400) = 198.26$, $p < .05$). Thus, the established hypothesis can be confirmed.

If one subsumes the proportions of explained variance of the individual linear regression models to a maximum possible 100%, it is noticeable that this value is exceeded. This suggests that there are redundancies in the prediction of future intention among the individual characteristics. In order to be able to control the mutual influences of the predictors, a multiple linear regression model is calculated. Based on this model, the characteristics together achieve a proportion of explained variance of about 66% (adj. R^2 - $F(6, 394) = 131.77$, $p < .05$). With the following table, the conditional effects of the characteristics on Future Intention can be traced.

Table 2: Multiple Regression Analysis

Future Intention	*b*	*SE*	*β*	*t*	*p*
Risk	-.02	.05	-.02	-.52	.60
Convenience	-.03	.06	-.02	-.29	.77
Trust	.50	.08	.36	6.22	< .05
Usefulness	.95	.11	.67	8.46	< .05
Ease of use	-.35	.11	-.22	-3.17	< .05
Situational factors	.07	.06	.05	1.19	.23
R^2	.66				
Adj. R^2	.66				
$F_{(6, 394)}$	131.77				

Focusing on the observed effects of the individual predictors, it can be analyzed that PU is most likely to predict future intention favoring. This is followed by the characteristic of perceived trust, which also has a favorable influence on future intention. Contrary to expectations and the previous results, PEOU turns out to be an inhibiting factor with regards to future intention. The remaining characteristics prove to be non-significant predictors in this model.

Finally, it should be noted that especially the predictor PU shows tendencies towards multicol-linear structures in connection with the predictors ease of use and trust.

Regarding the hypotheses 1b-6b, a graphical comparison of the data distributions of the collected characteristics in the first and second measurement can be traced in Appendix F. While the PR is the only characteristic that decreases, it is clear that the remaining factors are higher in the second measurement.

Table 3: T-tests analyses (H1b-H6b)

Characteristics		*M*	*SD*	One-Sided *p*	Cohen's *d*
Pair 1	Risk_pre	3.37	1.15	< .05	.83
	Risk_post	2.50	.92		
Pair 2	Usefulness_pre	3.66	.78	< .05	-.73
	Usefulness_post	4.27	.86		
Pair 3	EOU_pre	3.85	.63	< .05	-.72
	EOU_post	4.36	.78		
Pair 4	Trust_pre	3.64	.62	< .05	-.63
	Trust_post	4.16	.89		
Pair 5	Conv_pre	4.05	.57	< .05	-.66
	Conv_post	4.48	.70		
Pair 6	SitFac_pre	3.70	.68	< 0.05	-.73
	SitFact_post	4.28	.86		

In order to confirm or reject the hypotheses H1b-H6b, multiple t-tests were performed as well as effect sizes using Cohen's d. The effect measurement d uses the sample standard deviation of the mean difference adjusted by the correlation between measures.

Within the first hypothesis (H1b), it was subsequently hypothesized that the PR will be lower since the outbreak of the COVID-19 pandemic compared to Pre-COVID. A comparison of the means indicates that the PR Post is lower ($M = 2.50$, $SD = .92$) than for PR Pre ($M = 3.37$, $SD = 1.15$). Furthermore, high values in the first measurement (Risk Pre) varying with higher

values than in the second measurement (r(400) = .07, p = .08). Based on the t-test, the mean difference can be evaluated as statistically significant: t(401) = 12.20, p < .05 (one-sided). The magnitude of the effect can be evaluated as large (d = .84). Thus, the first hypothesis can be provisionally supported.

H2b proposed that usefulness post (M = 4.27, SD = .86) will be higher than usefulness pre (M = 3.66, SD = .78), which is supported by the results. The relationship between these two constructs is found to be significant and positive (r(400) = .47, p < .05). The mean difference can be considered significant based on the t-test: t(401) = -19.03, p < .05. The magnitude of the difference can be considered moderate based on Cohen's recommendations.

H3b hypothesized that EOU is higher since the outbreak of COVID-19 compared to Pre-COVID. This hypothesis is supported with EOU post (M = 4.36, SD = .78), having significantly (t(401) = -15.80, p < .05) higher values than EOU pre (M = 3.85, SD = .63). The magnitude of the difference can be considered moderate based on Cohen's recommendations.

H4b proposed that trust post (M = 4.16, SD = .89) is higher compared to trust pre (M = 3.64, SD = .62), which is supported by the results. The relationship between these two is found to be significant and positive (r(400) = .70, p < .001). The mean difference can be called significant by t-test, as the results show: t(401) = -16.35, p < .05. Beyond that, the effect can be evaluated as medium.

Regarding convenience, H5b proposed that convenience will be higher since the outbreak of COVID-19 compared to Pre-COVID. The results show that convenience post (M = 4.48, SD = .70) is higher than convenience pre (M = 4.05, SD = .57). The relationship between these two constructs is found to be significant and positive (r(400) = .47, p < .001). H5b is supported (t(401) = -12.85, p < .05, d = -.66).

H6b hypothesized that SF have a higher influence on the intention to purchase groceries online since the COVID-19 outbreak compared to Pre-COVID. The analysis shows that SF pre

($M = 3.70$, $SD = 0.68$) have significantly lower values than SF post ($M = 4.28$, $SD = 0.86$). H6b is supported ($t(401) = -20.32$, $p < .05$).

In summary, the COVID-19 pandemic shows a strong reduction in PR, while the remaining characteristics increase in moderate levels.

In the following chapter, the results will be discussed by referring to the literature.

5. Discussion

The results show that almost 72% of the participants already have experience with OGS and of those, more than half used the service for the first time since the outbreak of COVID-19, which can be explained by the recent heavy investments of online grocers in advertising, as the COVID-19 crisis led to a rapid increase of online grocery (Dannenberg et al., 2020). The 'stay at home' measures and the general reduction of activities (especially in terms of gastronomy) led consumers to use OGS. Based on the proposed OGS adoption reasons (Hand et al., 2009), the most striking reasons are "Outbreak of the COVID-19 pandemic", "Grocery Shopping is too tiring" and "Grocery Shopping is too time-consuming". The results show clearly that German consumers are willing to buy groceries online, as the advantages of the online channel outweigh those of stationary shopping for them. However, grocery retailers can use even more targeted marketing to communicate and highlight the advantages of online purchasing, as it can also be seen from the frequency results (Appendix C) that, so far, online purchasing has not yet replaced the regular weekly stationary grocery purchasing.

In accordance with the literature review discussed in this study, the empirical findings support the validity of the conceptual constructs. The results demonstrate a significant negative effect of risk perceptions on the consumer's intention to shop for groceries online. This is in line with previous research on OGS (Hansen, 2005; Hansen, 2006; Huang & Oppewal, 2006; Mortimer et al., 2016, Ramus & Nielsen, 2005). It is noticeable that the return and exchange options were perceived by almost half of respondents (Appendix H) as being worse online which are in line with findings by Jiang et al. (2013). This shows that the ease of unwanted

items returns are important to online shoppers when considering OGS. Moreover, the delivery of low-quality products or incorrect items was perceived as a fundamental risk, corresponding to findings by Ramus and Nielsen (2005). This risk indicates that consumers were particularly worried about the selection of perishable food such as vegetables, eggs, or meat products.

A significant positive effect on PU was found in this study, supporting previous studies (Cho & Sagynov, 2015; Ramadania & Braridwan, 2019). The results indicate that OGS is perceived as useful and increases the shopping productivity of consumers. Furthermore, the findings of the multiple regression highlight that out of all variables PU has the highest influence on future intention. Therefore, online grocery stores should provide a simple and fast access to the online shop by providing various information and high-quality goods descriptions.

The revealed significant positive effect on PEOU on OGS intention that was found in this study also supports the findings of previous studies (Cho & Sagynov 2015; Ramadania & Braridwan, 2019). More than half of the respondents appreciated the fact that buying groceries online is easy and effortless (Appendix I). However, a simultaneous examination of the effects on the characteristics shows a negative effect on ease of use (multiple regression). In conjunction with this theory, no plausible explanation for these results can be derived. This should be validated in future research.

The revealed significant positive effect of trust on OGS intention also supports the findings of previous studies (Bilgihan, 2016; Kim & Song, 2010). The results show that especially a secure payment by credit card is important for consumers. Moreover, the multiple regression results show that, next to usefulness, trust has the highest influence on OGS intention. This implies that online grocers should offer a secure service in terms of data and payment.

In line with previous studies (Huang & Oppewal, 2006; Jiang et al., 2013; Ramus & Nielsen, 2005) a significant positive effect of convenience on OGS intention was found. The results of this study show that especially time saving and the prevention of physical effort are

appreciated by the respondents, corresponding to the findings of Ramus and Nielsen (2005). This indicates that consumers who perceive the convenience as simple and comfortable are more likely to display a positive intention to shop groceries through the online channel.

In compliance with previous studies (Baarsma & Groenewegen; Bauerová 2021; Hand et al., 2009), a significant positive effect of SF on OGS was determined. Especially health problems as well as the time and physical effort to buy a needed item are triggers for starting OGS, supporting the findings of Hand et al. (2009). SF seem to be relevant for German consumers. The findings suggest that the main motives for OGS are beyond a marketer's control and should be used as a basis for marketing communications content and target advertising. In line with previous findings (Baarsma & Groenewegen, 2021; Bauerová, 2021), global events such the COVID-19 outbreak can also be seen as an important trigger to purchase groceries online. This indicates that there has been a significant acceleration as well as a faster acceptance in the online grocery business due to the health crisis. It is therefore likely that consumers have started to avoid physical stores due to fears of virus transmissions (Bauerová, 2021).

In general, the OGS intentions were quite high, as 57% agree to purchase groceries through the online channel and 58% agree to continue buying groceries online once the COVID-19 situation has subsided (Appendix J). This can be attributed to respondents' curiosity and trying out this relatively new form of grocery shopping, as the pandemic in particular has increased attention on grocery online shopping. In Germany, new providers such as 'Gorillas' as well as 'Rewe Online' have successfully established themselves on the market during the crisis (Dannenberg et al., 2020). The results suggest that the majority of the respondents are satisfied with the service of online grocers, as they plan to buy groceries online in the future, even once the pandemic has subsided. Nevertheless, online grocery retailers should not rest on their current success due to the pandemic, rather, they should make future investments and address

critical issues such as risk perception in order to continue to operate successfully in the market and thus retain consumers so that they continue to purchase groceries online in the long term.

Moreover, the hypotheses H1b-H6b were confirmed by the statistical results as well. The findings show that COVID-19 has a corresponding influence on the characteristics even in the passive imagination of the subjects. The PR has decreased since the COVID-19 outbreak and for all other characteristics the pandemic has a promoting influence. These results indicate that the pandemic and the policies of 'stay at home' opened a window of opportunity for online grocers to disseminate, which was driven by institutional restrictions and major shake ups of existing demand (Dannenberg et al., 2020). The results show that there has been a strong upswing in online grocery shopping and is therefore more socially accepted in Germany since the outbreak of COVID-19.

5.1 Theoretical and Managerial Implications

These findings have important theoretical and practical implications for companies in the online grocery business. This study provides research findings in the field of OGS and the impact of the COVID-19 pandemic in Germany. The literature on the impact of COVID-19 on consumer buying behavior is so far very limited due to the actuality of the subject. Furthermore, the creation of the questionnaire, measurement instruments and their items have been both developed based on literature as well as self-constructed. These can be used for future research regarding OGS.

Regarding practical implications, PR can be reduced by constantly improving the quality of products and delivery as well as implementing additional trust-building exercises. This leads to improvements in consumer trust and a higher repurchasing probability (Mortimer et al., 2016).

Most frequently asked questions about ordering and delivering grocery are important attributes to positively influence consumer's EOU (Bauerová & Klepek, 2018). Furthermore, online

retailers can implement chatbots as well as “Frequently asked questions” to assist consumers during the ordering process.

PU plays a major role in awakening the interest in buying groceries through the online channel. Therefore, marketers should not focus purely on the technical interface but instead concentrate on people’s thinking (Bauerová & Klepek, 2018).

Additionally, the results of this study indicate that perceived trust plays a crucial role in the consumer’s formation of attitude towards online shopping. Firms in the online grocery business can create a positive perception of trust by getting involved in trust building interventions, such as displaying privacy policies or, for instance, regularly communicating with consumers (Raman, 2019).

With respect to convenience, online grocery businesses should provide a user-friendly website for consumers to navigate, since they often lack assistance from salespersons (Jiang et al., 2013). Moreover, flexible payment methods as well a simple delivery and return process should be present. Online grocery retailers could implement a service of a third-party logistics company in order to pick up the return packages and make the process more convenient for consumers. Furthermore, pick up points for ordered groceries could offer consumers the opportunity to pick up their order quickly and easily at the store.

SF, which are beyond a marketer’s control, could be used as a basis for marketing communications content and target advertising. For instance, online grocery providers could use magazines directed at new parents (Hand et al., 2009). Furthermore, the COVID-19 pandemic forced retailers to respond rapidly to new consumer trends and the shift of grocery business to online channels. Health concerns, lower mobility and ‘stay at home’ measures have led to an increase in e-commerce. The benefits of purchasing groceries through an online channel should be marketed through various channels, especially in relation to the pandemic or other situational factors.

5.2 Limitations and Future Research

Naturally, this study has limitations that should be acknowledged. First, in the course of the development and creation of the questionnaire, measurement instruments and their items have been realized according to purely theoretical templates and in own development. Although the references from the literature do not necessarily lack uniqueness and the questionnaire has been checked for comprehensibility and understandability by means of a pretest, a validation of the characteristics should take place in future and further use. The good reliability values of the majority of the constructs should be emphasized positively, although these should not be seen as proof of existing validity. Second, future research can investigate the six customer-oriented factors as well as the impact of the COVID-19 crisis in other countries where online grocery retail is beginning to evolve. Third, future research could use qualitative methods or a mixed methods approach in order to get deeper insights of relevant perceptions and attitudes towards OGS in Germany. Fourth, a larger and more inclusive sample could potentially gain deeper knowledge of the subject. In this study, almost 70% of the participants are between 20-35 years old which reduces the comparability to older age groups. Lastly, future research could examine differences among generational cohorts such as Millennials, Baby Boomers and Generation Z.

6. Conclusion

The analysis of the impact of the COVID-19 pandemic on OGS in Germany contribute to the limited research in this field. The findings of this study display that PR decreased due to the influence of COVID-19 in the context of OGS, while the other constructs increased. Furthermore, the characteristics also had a favorable influence on future intention due to COVID-19 conditions. To conclude, online grocery retailers are facing major challenges in the German market, especially due to the impact of the pandemic and the resulting changes in consumer shopping behavior. In order to remain competitive in the future, retailers are forced to offer additional and convincing added value for consumers in the online area, so that consumers continue to buy groceries online even after the pandemic has ended.

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8. Appendices

Appendix A: Measurement Items

Construct		Item	Reference
Perceived risk Pre	Risk_pre	One risk of buying groceries online is receiving low quality products or incorrect items	adopted from Hansen (2006)
	Risk_pre	Security around payment and personal data on the internet is not good enough	
	Risk_pre	Return and exchange opportunities are not as good on the internet as in the supermarket	
	Risk_pre	One risk when buying groceries online is receiving products with an undesirable expiration date	
Perceived risk Post	Risk_post	One risk of buying groceries online is receiving low quality products or incorrect items	adopted from Hansen (2006)
	Risk_post	Security around payment and personal data on the internet is not good enough	
	Risk_post	Return and exchange opportunities are not as good on the internet as in the supermarket	
	Risk_post	One risk when buying groceries online is receiving products with an undesirable expiration date	
Perceived usefulness Pre	Usefulness_pre	Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	adopted from Güsken (2020)
	Usefulness_pre	Shopping groceries online enhances my effectiveness	
	Usefulness_pre	I perceive OGS as useful	
Perceived usefulness Post	Usefulness_post	Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	adopted from Güsken (2020)
	Usefulness_post	Shopping groceries online enhances my effectiveness	
	Usefulness_post	I perceive OGS as useful	
Perceived ease of use Pre	EOU_pre	The online grocery website is clear and understandable	adopted from Chin and Goh (2017)
	EOU_pre	Instructions for OGS are easy to follow	
	EOU_pre	Buying groceries online is easy and effortless	
Perceived ease of use Post	EOU_post	The online grocery website is clear and understandable	adopted from Chin and Goh (2017)
	EOU_post	Instructions for OGS are easy to follow	
	EOU_post	Buying groceries online is easy and effortless	
Perceived trust Pre	Trust_pre	Buying groceries online is a trustworthy experience	adopted from Rose et al. (2012)
	Trust_pre	I trust the information mentioned on the online website	
	Trust_pre	Buying groceries online is reliable	
	Trust_pre	I feel safe using my credit card making grocery purchases online	adopted from Bianchi and Andrews (2012)
	Trust_pre	I feel safe to share my personal details if requested	

Perceived trust Post	Trust_post	Buying groceries online is a trustworthy experience	adopted from Rose et al. (2012)
	Trust_post	I trust the information mentioned on the online website	
	Trust_post	Buying groceries online is reliable	
	Trust_post	I feel safe using my credit card making grocery purchases online	adopted from Bianchi and Andrews (2012)
	Trust_post	I feel safe to share my personal details if requested	
Convenience Pre	Conv_pre	Buying groceries online is time-saving	adopted from Khan and Rizvi (2012)
	Conv_pre	Ordering groceries online is possible 24/7 which makes life comfortable	
	Conv_pre	Delivery of the products at door step saves time and physical exertion	
	Conv_pre	Buying groceries online is less stressful	
	Conv_pre	Buying groceries online is a benefit for disabled, less mobile people	
Convenience Post	Conv_post	Buying groceries online is time-saving	adopted from Khan and Rizvi (2012)
	Conv_post	Ordering groceries online is possible 24/7 which makes life comfortable	
	Conv_post	Delivery of the products at door step saves time and physical exertion	
	Conv_post	Buying groceries online is less stressful	
	Conv_post	Buying groceries online is a benefit for disabled, less mobile people	
Situational factors Pre	SitFac_pre	Having a baby is a trigger to start buying groceries online	adopted from Hand et al. (2009)
	SitFac_pre	Having health problems is a trigger to start buying groceries online	
	SitFac_pre	Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	
	SitFac_pre	Global events are triggers to start buying groceries online	
Situational factors Post	SitFac_post	Having a baby is a trigger to start buying groceries online	adopted from Hand et al. (2009)
	SitFac_post	Having health problems is a trigger to start buying groceries online	
	SitFac_post	Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	
	SitFac_post	The COVID-19 pandemic is a trigger to start buying groceries online	
Intention to shop groceries online	Int_OGS	For future purchases, I plan to search for grocery products online	adopted from Ranadive (2015)
	Int_OGS	For future purchases, I plan to buy grocery products via the Internet	

Int_OGS	I will take more time to search for online grocery as an alternative
Int_OGS	I plan to continue buying groceries online once the COVID-19 situation has subsided

Appendix B: Distribution Sample Characteristics

Characteristics		*n*	Percent
Gender	Male	151	37.6%
	Female	250	62.2%
	Diverse	0	.0%
	Prefer not to say	1	.2%
Age	< 20	3	.8%
	20-35	275	69.4%
	36-49	39	9.8%
	50-65	76	19.2%
	>65	3	.8%
Current Employment Status	Student	127	31.6%
	Full-time employed	203	50.5%
	Part-time employed	41	10.2%
	Full-time homemaker	22	5.5%
	Unemployed	1	.2%
	Retired	8	2.0%
Have you ever purchased groceries online?	No	113	28.1%
	Yes	289	71.9%
Have you purchased groceries via the internet for the first time during the outbreak of the COVID-19 pandemic (2020/2021)?	No	75	26.0%
	Yes	214	74.0%

Appendix C: Distribution Shopping Frequency

		n	Percent
How often do you buy groceries online?	Tried once	19	6.6%
	Rarely	53	18.3%
	once every 2-6 months	25	8.7%
	2-3 times a month	98	33.9%
	Once a month	41	14.2%
	2-3 times a week	13	4.5%
	Once a week	38	13.1%
	Daily	2	.7%

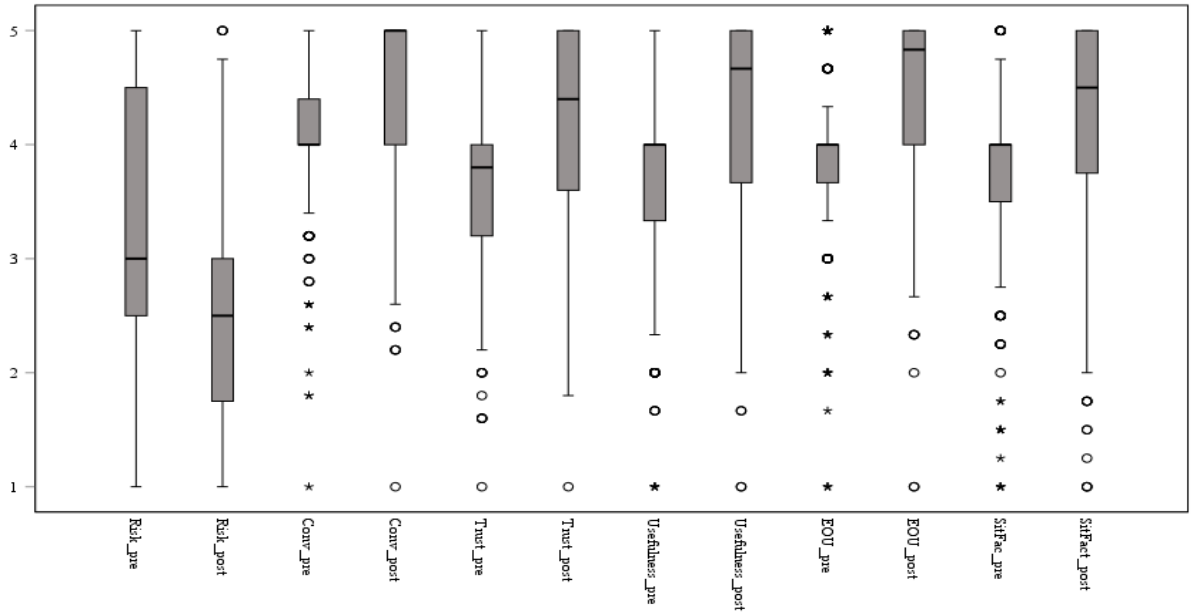
Appendix D: Distribution Initial Reasons for OGS

		n	Percent
Initial Reasons for OGS (Multiple Answers)	Outbreak of COVID-19	162	21.9%
	Health Problems	8	1.1%
	Mobility Problems	6	.8%
	Grocery shopping is too tiring	140	18.9%
	Grocery shopping is too time-consuming	184	24.8%
	Had a baby	21	2.8%
	No car	49	6.6%
	Recommendation	85	11.5%
	Curiosity	86	11.6%

Appendix E: Reliability Analysis

Constructs	Items	Cronbach's α
Risk_pre	4	.87
Risk_post	4	.83
Usefulness_pre	3	.85
Usefulness_post	3	.91
Ease of use_pre	3	.85
Ease of use_post	3	.91
Trust_pre	5	.82
Trust_post	5	.94
Convenience_pre	5	.79
Convenience_post	5	.90
Situational factors_pre	4	.69
Situational factors_post	4	.85
Intention_OGS	4	.95

Appendix F: Boxplot of constructs



Appendix G: Descriptive Constructs

RISK	M	SD	N
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - One risk of buying groceries online is receiving low quality products or incorrect items	3.50	1.28	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - Security around payment and personal data on the internet is not good enough	2.93	1.48	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - Return and exchange opportunities are not as good on the internet as in the supermarket	3.65	1.29	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - One risk when buying groceries online is receiving products with an undesirable expiration date	3.39	1.36	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - One risk of buying groceries online is receiving low quality products or incorrect items	2.66	1.09	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - Security around payment and personal data on the internet is not good enough	2.06	1.08	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - Return and exchange opportunities are not as good on the internet as in the supermarket	2.73	1.16	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on the risk when shopping for groceries online. - One risk when buying groceries online is receiving products with an undesirable expiration date	2.56	1.15	402

CONVENIENCE	M	SD	N
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Ordering groceries online is possible 24/7 which makes life comfortable	3.96	.79	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Delivery of the products at door step saves time and physical exertion	4.09	.72	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is less stressful	3.81	.89	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is a benefit for disabled, less mobile people	4.42	.59	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is time-saving	3.99	.84	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is time-saving	4.40	.90	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Ordering groceries online is possible 24/7 which makes life comfortable	4.42	.88	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Delivery of the products at door step saves time and physical exertion	4.51	.80	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is less stressful	4.31	.98	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on online shopping convenience. - Buying groceries online is a benefit for disabled, less mobile people	4.76	.56	402

TRUST	M	SD	N
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - Buying groceries online is a trustworthy experience	3.57	.82	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I trust the information mentioned on the online website	3.70	.71	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I feel safe using my credit card making grocery purchases online	3.73	.87	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - Buying groceries online is reliable	3.69	.68	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I feel safe to share my personal details if requested	3.51	.95	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - Buying groceries online is a trustworthy experience	4.13	.99	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I trust the information mentioned on the online website	4.23	.88	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I feel safe using my credit card making grocery purchases online	4.17	1.04	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - Buying groceries online is reliable	4.25	.91	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on trust when shopping groceries online. - I feel safe to share my personal details if requested	4.03	1.16	402

USEFULNESS & EASE OF USE	M	SD	N
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	3.66	.90	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Shopping groceries online enhances my effectiveness	3.53	.93	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - I perceive online grocery shopping as useful	3.80	.86	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - The online grocery website is clear and understandable	3.74	.75	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Instructions for online grocery shopping are easy to follow	3.88	.69	402
Pre COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Buying groceries online is easy and effortless	3.92	.71	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	4.24	1.03	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Shopping groceries online enhances my effectiveness	4.13	1.10	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - I perceive online grocery shopping as useful	4.37	.92	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - The online grocery website is clear and understandable	4.30	.89	402
Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Instructions for online grocery shopping are easy to follow	4.39	.83	402

Since COVID-19: Please imagine how much you personally agree or disagree with the following statements on usefulness and ease of use of when shopping groceries online. - Buying groceries online is easy and effortless	4.40	.82	402

SITUATIONAL FACTORS	M	SD	N
Pre-COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Having a baby is a trigger to start buying groceries online	3.50	1.01	402
Pre-COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Having health problems is a trigger to start buying groceries online	4.03	.80	402
Pre-COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	3.76	.96	402
Pre-COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Global events are triggers to start buying groceries online	3.51	1.01	402
Since COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Having a baby is a trigger to start buying groceries online	4.00	1.13	402
Since COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Having health problems is a trigger to start buying groceries online	4.51	.87	402
Since COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	4.28	1.08	402
Since COVID-19: Please imagine how much you personally agree or disagree on the following statements on SF when shopping groceries online. - The COVID-19 pandemic is a trigger to start buying groceries online	4.34	1.06	402

FUTURE INTENTIONS	M	SD	N
Please imagine how much you personally agree or disagree with these statements on your future intentions to shop for groceries online. - For future purchases, I plan to search for grocery products online	3.42	1.13	402
Please imagine how much you personally agree or disagree with these statements on your future intentions to shop for groceries online. - For future purchases, I plan to buy grocery products via the Internet	3.67	1.30	402
Please imagine how much you personally agree or disagree with these statements on your future intentions to shop for groceries online. - I will take more time to search for online grocery as an alternative	3.50	1.41	402
Please imagine how much you personally agree or disagree with these statements on your future intentions to shop for groceries online. - I plan to continue buying groceries online once the COVID-19 situation has subsided	3.66	1.38	402

Appendix H: Distribution of Return and exchange opportunities (Risk Post)

		Count	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	59	14.7	14.7	14.7
	Disagree	131	32.6	32.6	47.3
	Neither agree nor disagree	100	24.9	24.9	72.1
	Agree	82	20.4	20.4	92.5
	Strongly agree	30	7.5	7.5	100.0
	Total	402	100.0	100.0	

Appendix I: Distribution of Buying Groceries is easy and effortless (Ease of use Post)

		Count	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	.5	.5	.5
	Disagree	7	1.7	1.7	2.2
	Neither agree nor disagree	53	13.2	13.2	15.4
	Agree	105	26.1	26.1	41.5
	Strongly agree	235	58.5	58.5	100.0
	Total	402	100.0	100.0	

Appendix J: Distribution Item 2/4 Intention to buy groceries online

		Count	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	23	5.7	5.7	5.7
	Disagree	69	17.2	17.2	22.9
	Neither agree nor disagree	83	20.6	20.6	43.5
	Agree	68	16.9	16.9	60.4
	Strongly agree	159	39.6	39.6	100.0
	Total	402	100.0	100.0	

		Count	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	40	10.0	10.0	10.0
	Disagree	51	12.7	12.7	22.6
	Neither agree nor disagree	78	19.4	19.4	42.0
	Agree	69	17.2	17.2	59.2
	Strongly agree	164	40.8	40.8	100.0
	Total	402	100.0	100.0	

Appendix K: Questionnaire in English

OGS in Germany: The impact of COVID-19

This survey is part of a work project of the Management Master program at NOVA School of Business and Economics in Lisbon, Portugal. The purpose of this research is to gain insights into consumer behavior in OGS and the impact of the COVID-19 pandemic. It will take you approximately 5 minutes to complete. The participation in this survey is entirely voluntary. Any information provided will be kept strictly confidential and will be used for research purposes only.

If you have any questions about this study, please feel free to contact me: 43842@novasbe.pt

As a thank you for your participation you have the opportunity to win one of 5 Amazon vouchers worth 10 euros. The winners will be notified by e-mail.

Thank you for your time and effort!

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1. Have you ever purchased groceries online?

- No
- Yes

Skip To: End of Block If Have you ever purchased groceries online? = No

2. Have you purchased groceries via the internet **for the first time** during the outbreak of the COVID-19 pandemic (2020/2021)?

- ○ No
- ○ Yes

3. How often do you buy groceries online?

- ○ Tried once
- ○ Rarely
- ○ once every 2-6 months
- ○ 2-3 times a month
- ○ Once a month
- ○ 2-3 times a week
- ○ Once a week
- ○ Daily

4. Why did you start OGS? (Multiple answers possible)

- □ Outbreak of the COVID-19 pandemic
- □ Health problems
- □ Mobility problems
- □ Grocery shopping is too tiring
- □ Grocery shopping is too time-consuming
- □ Had a baby
- □ No car
- □ Recommendation
- □ Curiosity
- □ Other (please specify):_____

Please think back to the time **before** the COVID-19 outbreak and evaluate the following statements in that context.

5. **Pre COVID-19:** Please imagine how much you personally agree or disagree with the following statements on the **risk** when shopping for groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
One risk of buying groceries online is receiving low quality products or incorrect items	○	○	○	○	○
Security around payment and personal data on the internet is not good enough	○	○	○	○	○
Return and exchange opportunities are not as good on the internet as in the supermarket	○	○	○	○	○
One risk when buying groceries online is receiving products with an undesirable expiration date	○	○	○	○	○

6. **Pre COVID-19:** Please imagine how much you personally agree or disagree with the following statements on online shopping **convenience**.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Buying groceries online is time-saving	○	○	○	○	○
Ordering groceries online is possible 24/7 which makes life comfortable	○	○	○	○	○
Delivery of the products at door step saves time and physical exertion	○	○	○	○	○
Buying groceries online is less stressful	○	○	○	○	○
Buying groceries online is a benefit for disabled, less mobile people	○	○	○	○	○

7. **Pre COVID-19:** Please imagine how much you personally agree or disagree with the following statements on **trust** when shopping groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Buying groceries online is a trustworthy experience	○	○	○	○	○
I trust the information mentioned on the online website	○	○	○	○	○
I feel safe using my credit card making grocery purchases online	○	○	○	○	○
Buying groceries online is reliable	○	○	○	○	○
I feel safe to share my personal details if requested	○	○	○	○	○

8. CONTROL QUESTION: Who is the current chancellor of Germany?

_____

9. **Pre COVID-19:** Please imagine how much you personally agree or disagree with the following statements on **usefulness** and **ease of use** of when shopping groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	○	○	○	○	○
Shopping groceries online enhances my effectiveness	○	○	○	○	○
I perceive OGS as useful	○	○	○	○	○
The online grocery website is clear and understandable	○	○	○	○	○
Instructions for OGS are easy to follow	○	○	○	○	○
Buying groceries online is easy and effortless	○	○	○	○	○

10. **Pre-COVID-19:** Please imagine how much you personally agree or disagree on the following statements on **SF** when shopping groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Having a baby is a trigger to start buying groceries online	○	○	○	○	○
Having health problems is a trigger to start buying groceries online	○	○	○	○	○
Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	○	○	○	○	○
Global events are triggers to start buying groceries online	○	○	○	○	○

Please think back to the time **since** the COVID-19 outbreak and evaluate the following statements in that context.

11. **Since COVID-19:** Please imagine how much you personally agree or disagree with the following statements on the **risk** when shopping for groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
One risk of buying groceries online is receiving low quality products or incorrect items	○	○	○	○	○
Security around payment and personal data on the internet is not good enough	○	○	○	○	○
Return and exchange opportunities are not as good on the internet as in the supermarket	○	○	○	○	○
One risk when buying groceries online is receiving products with an undesirable expiration date	○	○	○	○	○

12. **Since COVID-19:** Please imagine how much you personally agree or disagree with the following statements on online shopping **convenience**.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Buying groceries online is time-saving	○	○	○	○	○
Ordering groceries online is possible 24/7 which makes life comfortable	○	○	○	○	○
Delivery of the products at door step saves time and physical exertion	○	○	○	○	○
Buying groceries online is less stressful	○	○	○	○	○
Buying groceries online is a benefit for disabled, less mobile people	○	○	○	○	○

13. CONTROL QUESTION: What is the capital city of Germany?

14. **Since COVID-19:** Please imagine how much you personally agree or disagree with the following statements on **trust** when shopping groceries online.

	Stongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Buying groceries online is a trustworthy experience	○	○	○	○	○
I trust the information mentioned on the online website	○	○	○	○	○
I feel safe using my credit card making grocery purchases online	○	○	○	○	○
Buying groceries online is reliable	○	○	○	○	○
I feel safe to share my personal details if requested	○	○	○	○	○

15. **Since COVID-19:** Please imagine how much you personally agree or disagree with the following statements on **usefulness** and **ease of use** of when shopping groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Shopping groceries online increases my shopping productivity (e.g. I can use the time gained for sth. else)	○	○	○	○	○
Shopping groceries online enhances my effectiveness	○	○	○	○	○
I perceive OGS as useful	○	○	○	○	○
The online grocery website is clear and understandable	○	○	○	○	○
Instructions for OGS are easy to follow	○	○	○	○	○
Buying groceries online is easy and effortless	○	○	○	○	○

16. **Since COVID-19:** Please imagine how much you personally agree or disagree on the following statements on **SF** when shopping groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Having a baby is a trigger to start buying groceries online	○	○	○	○	○
Having health problems is a trigger to start buying groceries online	○	○	○	○	○
Spending time and effort in an extra trip to buy a needed item is a trigger to start buying groceries online	○	○	○	○	○
The COVID-19 pandemic is a trigger to start buying groceries online	○	○	○	○	○

17. Please imagine how much you personally agree or disagree with these statements on your **future intentions** to shop for groceries online.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
For future purchases, I plan to search for grocery products online	○	○	○	○	○
For future purchases, I plan to buy grocery products via the Internet	○	○	○	○	○
I will take more time to search for online grocery as an alternative	○	○	○	○	○
I plan to continue buying groceries online once the COVID-19 situation has subsided	○	○	○	○	○

18. Please add any additional comments/thoughts on OGS!

_____

19. Please indicate your gender:

- Male
- Female
- Diverse
- Prefer not to say

20. Please indicate your age:

- Please specify: _____
- Prefer not to say

21. Please indicate your current employment status:

- Student
- Full-time employed
- Part-time employed
- Full-time homemaker
- Unemployed
- Retired

22. Please indicate your e-mail address if you would like to participate in the competition. The participation is entirely voluntary. Any information provided will be kept strictly confidential.

_____

Appendix L: Questionnaire in German

OGS in Germany: The impact of COVID-19

Diese Umfrage ist Teil einer Masterarbeit des Management-Masterprogramms an der NOVA School of Business and Economics in Lissabon, Portugal. Ziel dieser Untersuchung ist es, Einblicke in das Verbraucherverhalten beim Online-Lebensmitteleinkauf und die Auswirkungen der COVID-19-Pandemie zu gewinnen. Das Ausfüllen der Umfrage wird etwa 5 Minuten dauern. Die Teilnahme an dieser Umfrage ist freiwillig. Alle Angaben werden streng vertraulich behandelt und nur zu Forschungszwecken verwendet.

Wenn Sie Fragen zu dieser Studie haben, können Sie mich gerne kontaktieren: 43842@novasbe.pt

Als Dankeschön für Ihre Teilnahme haben Sie die Möglichkeit, einen von 5 Amazon-Gutscheinen im Wert von 10 Euro zu gewinnen. Die Gewinner werden per E-Mail benachrichtigt.

Vielen Dank für Ihre Zeit und Mühe!

---

1. Haben sie jemals Lebensmittel online eingekauft?

   - Nein
   - Ja

Skip To: End of Block If Have you ever purchased groceries online? = No

2. Haben Sie während des Ausbruchs der COVID-19-Pandemie (2020/2021) **zum ersten Mal** Lebensmittel über das Internet eingekauft?

- ○ Nein
- ○ Ja

3. Wie oft kaufen Sie Lebensmittel online?

- ○ Einmal ausprobiert
- ○ Selten
- ○ Einmal jede 2-6 Monate
- ○ 2-3 Mal im Monat
- ○ Einmal im Monat
- ○ 2-3 Mal in der Woche
- ○ Einmal die Woche
- ○ Täglich

4. Warum haben Sie mit dem Online-Einkauf von Lebensmitteln begonnen? (Mehrere Antworten möglich)

- ☐ Ausbruch der COVID-19-Pandemie
- ☐ Gesundheitliche Probleme
- ☐ Eingeschränkte Mobilität
- ☐ Einkaufen ist zu anstrengend
- ☐ Einkaufen ist zu zeitintensiv
- ☐ Einkaufen mit Kindern vermeiden
- ☐ Kein Auto
- ☐ Empfehlung
- ☐ Neugierde
- ☐ Sonstiges: _____

Bitte denken Sie an die Zeit **vor** dem Ausbruch von COVID-19 zurück und bewerten Sie die folgenden Aussagen in diesem Zusammenhang.

5. **Vor COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über das **Risiko** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Ein Risiko beim Online-Einkauf von Lebensmitteln besteht darin, minderwertige Produkte oder falsche Artikel zu erhalten	○	○	○	○	○
Die Sicherheit von Zahlungen und persönlichen Daten im Internet ist nicht gut genug	○	○	○	○	○
Rückgabe- und Umtauschmöglichkeiten sind im Internet nicht so gut wie im Supermarkt	○	○	○	○	○
Ein Risiko beim Online-Einkauf von Lebensmitteln besteht darin, Produkte mit einem unerwünschten Verfallsdatum zu erhalten	○	○	○	○	○

6. **Vor COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über die **Bequemlichkeit** des Online-Shoppings zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Online-Einkauf von Lebensmitteln ist zeitsparend	○	○	○	○	○
Die Online-Bestellung von Lebensmitteln ist rund um die Uhr möglich und macht das Leben bequem	○	○	○	○	○
Die Lieferung der Produkte an der Haustür spart Zeit und körperliche Anstrengung	○	○	○	○	○
Online-Einkauf von Lebensmitteln ist weniger stressig	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist ein Vorteil für behinderte und weniger mobile Menschen	○	○	○	○	○

7. **Vor COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über das **Vertrauen** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Der Online-Einkauf von Lebensmitteln ist eine vertrauenswürdige Erfahrung	○	○	○	○	○
Ich vertraue den Informationen auf der Online-Webseite	○	○	○	○	○
Ich fühle mich sicher, wenn ich mit meiner Kreditkarte online Lebensmittel einkaufe	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist zuverlässig	○	○	○	○	○
Ich fühle mich sicher, meine persönlichen Daten auf Anfrage weiterzugeben	○	○	○	○	○

8. KONTROLLFRAGE: Wer ist die derzeitige Bundeskanzlerin von Deutschland?

_____

9. **Vor COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über die **Nützlichkeit** und **Benutzerfreundlichkeit** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Der Online-Einkauf von Lebensmitteln erhöht meine Einkaufsproduktivität (z. B. kann ich die gewonnene Zeit für andere Dinge nutzen)	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln steigert meine Effizienz	○	○	○	○	○
Ich empfinde den Online-Einkauf von Lebensmitteln als nützlich	○	○	○	○	○
Die Website des Online-Lebensmittelgeschäfts ist klar und verständlich	○	○	○	○	○
Die Anweisungen für den Online-Einkauf von Lebensmitteln sind leicht zu befolgen	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist einfach und mühelos	○	○	○	○	○

10. **Vor-COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über **situative Faktoren** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Ein Baby ist ein Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○
Gesundheitliche Probleme sind ein Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○
Der Aufwand einer zusätzlichen Fahrt, um einen benötigten Artikel zu kaufen, ist ein Auslöser dafür, Lebensmittel online zu kaufen	○	○	○	○	○
Globale Ereignisse sind Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○

Bitte denken Sie an die Zeit **seit** dem Ausbruch der COVID-19 Pandemie (2020/2021) und bewerten Sie die folgenden Aussagen in diesem Zusammenhang.

11. **Seit COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über das **Risiko** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Ein Risiko beim Online-Einkauf von Lebensmitteln besteht darin, minderwertige Produkte oder falsche Artikel zu erhalten	○	○	○	○	○
Die Sicherheit von Zahlungen und persönlichen Daten im Internet ist nicht gut genug	○	○	○	○	○
Rückgabe- und Umtauschmöglichkeiten sind im Internet nicht so gut wie im Supermarkt	○	○	○	○	○
Ein Risiko beim Online-Einkauf von Lebensmitteln besteht darin, Produkte mit einem unerwünschten Verfallsdatum zu erhalten	○	○	○	○	○

12. **Seit COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über die **Bequemlichkeit** des Online-Shoppings zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Online-Einkauf von Lebensmitteln ist zeitsparend	○	○	○	○	○
Die Online-Bestellung von Lebensmitteln ist rund um die Uhr möglich und macht das Leben bequem	○	○	○	○	○
Die Lieferung der Produkte an der Haustür spart Zeit und körperliche Anstrengung	○	○	○	○	○
Online-Einkauf von Lebensmitteln ist weniger stressig (	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist ein Vorteil für behinderte und weniger mobile Menschen	○	○	○	○	○

13. Was ist die Hauptstadt von Deutschland?

_____

14. Seit COVID-19: Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über das **Vertrauen** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Der Online-Einkauf von Lebensmitteln ist eine vertrauenswürdige Erfahrung	○	○	○	○	○
Ich vertraue den Informationen auf der Online-Webseite	○	○	○	○	○
Ich fühle mich sicher, wenn ich mit meiner Kreditkarte online Lebensmittel einkaufe	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist zuverlässig	○	○	○	○	○
Ich fühle mich sicher, meine persönlichen Daten auf Anfrage weiterzugeben	○	○	○	○	○

15. **Seit COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über **Nützlichkeit** und **Benutzerfreundlichkeit** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Der Online-Einkauf von Lebensmitteln erhöht meine Einkaufsproduktivität (z. B. kann ich die gewonnene Zeit für andere Dinge nutzen)	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln steigert meine Effizienz	○	○	○	○	○
Ich empfinde den Online-Einkauf von Lebensmitteln als nützlich	○	○	○	○	○
Die Webseite des Online-Lebensmittelgeschäfts ist klar und verständlich	○	○	○	○	○
Die Anweisungen für den Online-Einkauf von Lebensmitteln sind leicht zu befolgen	○	○	○	○	○
Der Online-Einkauf von Lebensmitteln ist einfach und mühelos	○	○	○	○	○

16. **Seit COVID-19:** Bitte stellen Sie sich vor, wie sehr Sie persönlich den folgenden Aussagen über **situative Faktoren** beim Online-Einkauf von Lebensmitteln zustimmen oder nicht zustimmen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Ein Baby ist ein Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○
Gesundheitliche Probleme sind ein Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○
Der Aufwand einer zusätzlichen Fahrt, um einen benötigten Artikel zu kaufen, ist ein Auslöser dafür, Lebensmittel online zu kaufen	○	○	○	○	○
Die COVID-19-Pandemie ist der Auslöser für den Online-Einkauf von Lebensmitteln	○	○	○	○	○

17. Bitte stellen Sie sich vor, wie sehr Sie persönlich diesen Aussagen zustimmen oder nicht zustimmen, wenn es um Ihre **zukünftigen Absichten** geht, Lebensmittel online einzukaufen.

	Stimme gar nicht zu	Stimme eher nicht zu	Teils/teils	Stimme eher zu	Stimme voll und ganz zu
Für künftige Einkäufe plane ich, Lebensmittelprodukte online zu suchen	○	○	○	○	○
Für zukünftige Einkäufe plane ich, Lebensmittel über das Internet zu kaufen	○	○	○	○	○
Ich werde mir mehr Zeit für die Suche nach Online-Lebensmittelgeschäften als Alternative nehmen	○	○	○	○	○
Ich habe vor, weiterhin Lebensmittel online zu kaufen, sobald sich die COVID-19-Situation entspannt hat	○	○	○	○	○

18. Bitte fügen Sie weitere Kommentare/Gedanken zum Online-Einkauf von Lebensmitteln hinzu!

_____

19. Bitte geben Sie Ihr Geschlecht an:

- Männlich
- Weiblich
- Divers
- Keine Angabe

20. Bitte geben Sie Ihr Alter an:

- Bitte angeben: _____
- Keine Angabe

21. Bitte geben Sie Ihren derzeitigen Beschäftigungsstatus an:

- Student
- Vollzeitbeschäftigt
- Teilzeitbeschäftigt
- Haus-frau/mann in Vollzeit
- Arbeitslos
- Im Ruhestand

22. Bitte geben Sie Ihre E-Mail-Adresse an, wenn Sie an dem Gewinnspiel teilnehmen möchten. Die Teilnahme ist freiwillig. Alle Angaben werden streng vertraulich behandelt.

_____