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BUYING GROCERIES ONLINE:
CONSUMER PERCEPTIONS AND GENERATIONAL COHORTS

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Abstract

Purpose – Online grocery shopping is gaining momentum in European retailing. The purpose of this study was to investigate four theoretical consumer-oriented constructs and their influence on consumer purchase intention in this context. Additionally, this paper examined differences between two generational cohorts, Millennials and Baby Boomers.

Design/methodology/approach – A quantitative study was conducted among 354 Austrian consumers. Data were analyzed using IBM SPSS version 23.0.

Findings – The main results found that perceived risk has a negative relationship with purchase intention and remains particularly relevant in online grocery shopping. Prior online shopping experience, perceived online shopping convenience and grocery variety seeking were also found to influence consumer intention. With respect to generational cohorts, Baby Boomers perceived entailed risks to be higher and convenience to be lower in comparison to Millennials. The younger generation displayed higher variety seeking as well as more distinct online shopping experience and enjoyment.

Practical implications – For players in the online grocery market, this study’s implications present measures to address perceived risks and effectively communicate benefits to consumers.

Originality/value – Theoretically, this study provides insights into specific consumer perceptions and experiences and their effect on future shopping intention. Also, the findings add to the scarce knowledge on generational cohort segmentation in the online shopping literature.

Keywords Online grocery shopping, Generational cohorts, Perceived internet grocery risk, Electronic commerce;

Paper type Research paper
Introduction

To date, the internet has exhibited the highest adoption rate of any technology up to the present day (Malik & Guptha, 2013). Such fast development has had an enormous and irrevocable impact on business, creating a new global market without time and space limitations (Faqih, 2016; Racolta-Paina & Luca, 2010). As reported by A.T. Kearney (2015), global retail e-commerce sales are expected to increase from US$840 billion in 2014 to US$1,506 billion in 2018. This continuing rise in sales indicates the immense potential of the online channel as a market place, and consequently prompts many retailers to capitalize on its advantages (Mortimer, Hasan, Andrews, & Martin, 2016).

In contrast to books, consumer electronics and even apparel, the grocery segment with its traditionally low profit margins is still struggling to gain online presence after a problematic initial phase in the 1990s (Lim, Widdows, & Hooker, 2009; Ramus & Nielsen, 2005). Despite seemingly advocating factors such as the large share of grocery purchases of overall consumer spending (Ramus & Nielsen, 2005) and the ever-increasing reported consumer time poverty, the sector has been unable to gain traction, and grocery retailing can still be seen today as one of the last retail segments where the internet has yet to play a major role. Nonetheless, online grocery shopping has displayed considerably strong growth in recent years and is expected to further develop in the near future (Nielsen, 2015). In the US, grocery sales generated through the internet channel are forecasted to substantially increase and account for 12% of total grocery spending by 2019 (Kumar, 2014).

In Europe, however, internet grocery shopping is still in its nascent stage. In 2015 even the most developed markets, i.e. the United Kingdom and France, reported low percentages of total sales of 5% and 4%, respectively (Euromonitor, 2016; McKinsey, 2015). Nevertheless, European grocery retailers should not regard the seemingly slow growth rates as an excuse for complacency, since local consumers are increasingly looking for ways to optimize the everyday activity of grocery shopping (McKinsey, 2015; Melis, Campo, Lamey,
& Breugelmans, 2016; Nielsen, 2015). Moreover, bearing in mind Amazon Fresh’s (grocery delivery service) presence in several US and UK cities and its imminent entry into the German market as well as Google’s efforts in this segment, the necessity for grocery retailers to effectively employ the online channel is now even more apparent and pressing.

Shopping for groceries online differs vastly from other types of online shopping, essentially due to the entailed perishability and variability of the products (Mortimer et al., 2016). As a consequence, consumers closely weigh their risk and convenience perceptions when evaluating the adoption of the online channel in this context (Melis et al., 2016). Moreover, in view of ambiguous consumer conceptions of grocery shopping, ranging from bothersome chore to enjoyable leisure activity, traditional as well as online shopping factors play a decisive role.

In Austria, despite recent heavy investment activities of incumbents, the adoption rates of online grocery shopping are still remarkably low, amounting to less than 1% (Euromonitor, 2016). With rather restricted supermarket opening hours and a high internet penetration rate of 83%, the Austrian market conditions would seem favorable (A.T. Kearney, 2015). Lacking consumer interest could partly be attributed to the currently high density of supermarkets, and 72% of local consumers simply being content with existing shopping opportunities (A.T. Kearney, 2013). Additionally, price sensitivity in German-speaking countries is generally high (A.T. Kearney, 2013), which can be seen in contrast to possible delivery fees and minimum basket sizes to get access to free delivery.

As e-commerce represents an increasingly important marketing and sales channel worldwide, acting as a complement to traditional channels, it is also of high importance for grocery retailers in the Austrian market to have a better understanding of the factors influencing online buying behavior. Furthermore, the gained insights can facilitate the retailers’ appropriate addressing of consumers’ expectations and reservations and enable them to effectively market to different target consumer groups.
This study aims to address two gaps in existing research on online grocery shopping. First, the conceptual model comprises validated concepts of perceptions, namely risk and convenience, as well as shopping experience and enjoyment variables to ensure a versatile approach. Especially perceived risk, having received considerable attention in the research on internet shopping in general (Faqih, 2013; Soopramanien, 2011) has not yet been thoroughly investigated in research on online grocery shopping. This is in spite of its undisputed importance when purchasing food online (Mortimer et al., 2016) and calls for further research (Crespo, Bosque, & García De Los Salmones Sánchez, 2009). Second, previous research has only scarcely considered different consumer segments concerning internet grocery shopping behavior, for example investigating possible differences in gender (Faqih, 2016), age (Hui, 2009) as well as purchasing frequency (Hansen, 2005; Mortimer et al., 2016). Especially research on generational cohort segmentation is lacking in online shopping in general and even more so in studies on online grocery shopping (Lissista & Kol, 2016).

Therefore, the objectives of this paper are twofold: first, to investigate the effects of the chosen variables on the consumers’ intention to purchase groceries via the internet; and second, to examine potential differences between two generational cohorts, i.e. Millennials and Baby Boomers. By reaching the stated objectives, this study adds to the understanding of the consumer intention as well as generational cohort segmentation in this specific online shopping context. Given the mentioned slow development of online grocery shopping in Austria, it is appropriate to gain further insights into the intention of consumers to start using the internet to buy groceries rather than exclusively addressing shoppers. This is the case for large parts of the European market, and this study can provide important theoretical and managerial implications where online grocery shopping is only starting to evolve. However, online grocery shoppers’ adoption reasons are also of high interest to incumbents to effectively increase their online sales (Campo & Breugelmans, 2015).
The study starts by presenting a brief insight into the existing literature on online grocery shopping, followed by the description of the employed constructs and the determination of purchasing intention.

**Online Grocery Shopping**

Online grocery shopping (henceforth OGS) is defined as the online vending of food, drink and supplies for in-home consumption. Specifically, this comprises store-based grocers’ and pure online grocers’ as well as food and drink specialist retailers’ sales via the online channel (Mintel, 2012).

The rapid expansion of the online retail market can be described as extremely heterogeneous with regards to different retail segments. However, OGS is now gaining importance in the online retail environment and this segment is expected to thrive even more in the near future (Nielsen, 2015). As a consequence, companies in the market seek to address consumers’ expectations appropriately (Nilsson, Gärling, Marell, & Nordvall, 2015). This results in increased pressure on firms to retain their customers while also encouraging hesitant or casual online grocery shoppers to increase the frequency of their grocery purchases through the online channel (Hansen, 2008).

What makes this topic vibrant from a consumer behavior point of view is the fact that to adopt OGS, the consumer’s actions need to be changed in a substantial way, ceasing established habits. Instead of visiting a store and inspecting the products on the shelves in person, the consumer selects the products online on the vendor’s website (Hand, Riley, Harris, Singh, & Rettie, 2009). At the same time, the online environment is missing integral parts of the offline shopping experience, such as feeling and smelling products as well as personal contact with store employees and other customers. More so, in addition to changing their habits, the consumer needs to employ relatively new technology to do the task, classifying this activity as a discontinuous innovation (Hansen, 2005). This results in the circumstance
that the adoption process can take longer and turn out to be more problematic than in cases of continuous innovations (Hand et al., 2009). Moreover, the decision between brick-and-mortar and online channel does not have to be exclusive, with shoppers oftentimes using both channels complimentarily (Hand et al., 2009).

The range of literature on general online shopping behavior is substantially versatile. However, studies focused on the topic of OGS are rather limited, either focusing on the involved business operations or on consumer behavior. Concerning the latter, possible benefits and challenges of OGS adoption were addressed (Cho, 2011; Huang & Oppewal, 2006; Tanskanen, Yrjölä, & Holmström, 2002) and the effect of demographics has been studied to classify consumer segments in OGS (Hansen, 2005; Hansen, Jensen, & Solgaard, 2004; Verhoef & Langerak, 2001). Furthermore, consumer expectations were examined (Rafiq & Fulford, 2005; Wilson-Jeanselme & Reynolds, 2006) and the concerned decision-making processes investigated (Campo & Breugelmans, 2015; Milkman, Rogers, & Bazerman, 2010) by comparing online and offline grocery shopping behavior (Chu, Arce-Urriza, Cebollada-Calvo, & Chintagunta, 2010; Elms, Kervenoael, & Hallsworth, 2016). Also, the effect of situational circumstances has been considered (Hand et al., 2009; Muhammad, Sujak, & Rahman 2016; Robinson, Riley, Rettie, & Rolls-Willson, 2007).

**Generational Cohorts**

Regarding the consideration of age and its influence on online shopping behavior, research outcomes differ substantially (Zhou & Zhang, 2007). A relationship between age and online shopping behavior is found in some studies as well as the tendency of younger people to display a higher probability of shopping online (Khare, Khare, & Singh, 2012).

Some research indicates that rather than using the variable of age, the employing of generational cohorts is an advantageous way of segmentation. Nevertheless, research on online shopping behavior of generational cohorts is limited (Lissista & Kol, 2016).
Generational Cohort Theory posits that people born in the same period of time share certain experiences (Petroulas, Brown, & Sundin, 2010). This supposedly also results in similarities concerning attitudes, values and beliefs among individuals in the same cohort group (Brosdahl & Carpenter, 2011). Millennials and Baby Boomers are of high interest to research, business in general and the grocery retail market due to their size, lifestyles and high purchasing power (Parment, 2013). Because of differing experiences in their coming-of-age years, these two generational cohorts might have differing perceptions of OGS (Parment, 2013).

Baby Boomers make up the largest generational cohort in Austria. Within this study, the profile includes being born between 1951 and 1965 and accordingly being aged 50 to 65 in 2016. Albeit on average currently doing less online shopping on average than Millennials, Baby Boomers are increasingly acknowledging the online environment as a compatible mode of shopping (Sullivan & Hyun, 2016). Research suggests that this generational cohort appreciates relationships to specific shops, and values brands and stores with good reputations (Harris, Stiles, & Durocher, 2011).

Within the scope of this study, Millennial consumers, the children of the Baby Boomers, are defined to be born between 1981 and 1996 (Pew Research Center, 2015), so aged 20 to 35 in 2016. Gen Y members, as they are also called, are technology savvy, the most energetic consumer group in online shopping (GTAI, 2015) and early adopters of new products and services (Ordun, 2015). Within this cohort, members are more likely to shop online and purchase decisions are made rather fast (Lissitsa & Kol, 2016), with less emphasis on physical examination of products and lower brand loyalty (Ordun, 2015). Millennials also highly value fast transactions, more so than customer service and would rather avoid human contact when shopping (Harris et al., 2011). Moreover, this cohort has been found to focus on practicality in their shopping channel choice (Cox, Kilgore, Purdy, & Sampath, 2008), and the ability to compare prices, which can be done more easily in online shopping (Parment, 2013).
Taking into consideration the preceding research on generational cohorts, the theoretical constructs are chosen to examine possible differences between the two groups.

**Online Grocery Shopping Intention**

Purchase and adoption intentions are naturally of high interest to businesses, although their roots are to be found in traditional behavioral science and the term *intention*. An intention can be defined as the effort that an individual is willing to exert to perform a certain behavior (Ajzen, 1991). Consequently, consumer purchase intention is crucial in consumer behavior in general and the decision-making process in particular. Various theories and models have been developed by scholars to investigate the formation of intention while trying to gain insights into the effects of differing perspectives. The theoretical concept of behavioral intention has been linked to consumer attitudes and acceptance factors (Technology Acceptance Model, Diffusion of Innovations) as well as consumer variables such as convenience, compatibility and trust perceptions. Referring to the differing theoretical perspectives and explanatory approaches, they have in common that the purchase intention is a result of the consumer’s internal processes, and that it to some extent predicts consumer buying behavior. However, despite previous research identifying intention as a prominent predictor of online shopping behavior (Chen & Barnes, 2007; He et al., 2008; Pavlou & Fygenson, 2006), it should be recognized that the mere intention does not automatically translate into action, and discrepancies may occur (Kim & Jones, 2009).

In view of the specific influence of perceptions on actual behavior, Ajzen’s Theory of Planned Behavior is one of the most established and investigated social psychology theories (Ramus & Nielsen, 2005). According to this theory, an individual’s behavioral intention is the best predictor of actual behavior. Moreover, the intention as a psychological construct is in turn influenced by attitude, subjective norm and perceived behavioral control, with additional factors such as perceived risk having also been proven to have a direct effect on intention. In
this respect, the theory is relevant in the context of this study, utilizing the central construct of behavioral intention as an outcome variable.

**Perceived Internet Grocery Risk**

The multidimensional construct of perceived risk remains prominent in research on online consumer behavior and is an empirically proven direct inhibitor of purchase intention. This factor is examined in the theoretical framework of various studies on general online consumer behavior and found to be of significant and negative influence, regardless of technological advancements and consumer online shopping proficiency (Adnan, 2014; Bianchi & Andrews, 2012) Also in the specific case of OGS, perceived risk was found to have a significant, negative impact on the respective online shopping intention (Hansen, 2005a; Hansen, 2006; Huang & Oppewal, 2006; Mortimer et al., 2016), with consumers taking into account their levels of trust against the perceived risk when it comes to internet grocery shopping decisions (Mortimer et al., 2016). Particularly concerning for consumers is the ordering of perishable products online; here the perceived risk represents a substantial barrier to adoption (Huang & Oppewal, 2006).

Hansen (2006), in a study on the intention to purchase groceries online, creates the construct of Perceived Internet Grocery Risk. In this case, specific types of risk in connection with OGS are taken into consideration. First, return and exchange opportunities are addressed and put in relation to those in the traditional channel of supermarkets. Consumers used to the immediacy of shopping in supermarkets might perceive it as risky to expect simple return options for purchases from the online vendor, due to the local distance and increased time required (Ramus & Nielsen, 2005). Second, the risk of receiving products of low quality or incorrect products is included in this construct. This risk is particularly prominent in OGS, since customers cannot examine and choose the products themselves, but rather need to trust the vendor that selection has been done diligently by employees (Jiang et al., 2013; Ramus &
Nielsen, 2005). Moreover, the quality of the products could deteriorate during the process of delivery because of delays or employees’ disregarding instructions. Finally, two statements allude to the perceived risks regarding payment in the online channel and general trustworthiness of online shops. Especially privacy concerns and transaction risks are present (Lim, 2003), although the perception of these risks is decreasing with customers gaining confidence in using the online channel (Hansen, 2005).

Because of this study’s stated purpose of investigating consumer OGS perceptions, this construct was chosen due to its consideration of the specific risks related to purchasing groceries online and its proven negative effect on purchase intention. Therefore, it is hypothesized that:

\[ H1a: \text{Perceived Internet Grocery Risk has a negative influence on the Online Grocery Shopping Intention} \]

\[ H1b: \text{Millennials have lower levels of Perceived Internet Grocery Risk than Baby Boomers} \]

**Offline Grocery Shopping Enjoyment**

Grocery shopping is often perceived as a stressful chore (Huang & Oppewal, 2006), but also as a mundane, routine occupation (Dawes & Nenycz-Thiel, 2014), particularly due to its repetitiveness and habituality. In contrast, online shopping is supposedly an exciting and enjoyable activity with the shopper browsing for new products and easily getting an overview of offers. However, the mentioned negative characteristics of grocery shopping would consequently also be experienced as such when performing the task online (Chiagouris & Ray, 2010).

In fact, some consumers do enjoy grocery shopping or simply prefer to perform this task offline due to the possibility of personally examining the products. Also, the perceived advantage of consumers who prefer in-store grocery shopping stems from the satisfaction of
personal (sensory stimulation, learning) as well as social (communication) needs when visiting a retail store (Darian, 1987). Grocery shopping per se differs from other retail areas concerning delicate factors like consumer involvement as well as purchase frequency and shopping enjoyment. Especially the loss of the latter factor represents a substantial disadvantage of the online channel in this area to some shoppers (Verhoef, 2001). Even though the internet channel partly attempts to replicate or provide other forms of shopping enjoyment in the online environment, the loss of hedonic shopping attributes may hinder consumers in acknowledging this form of shopping as an alternative or as an additional possibility (Hansen, 2006; Verhoef, 2001).

The hypotheses, grounded on studies that examined the negative influence of in-store grocery shopping enjoyment (Hansen, 2006; Verhoef, 2001; Vijayasarathy, 2002), and keeping in mind the specific characteristics of grocery shopping and the two generational cohorts, are formulated as follows:

\[ H2a: \text{Offline Shopping Enjoyment has a negative influence on the Online Grocery Shopping Intention} \]

\[ H2b: \text{Millennials have lower levels of Offline Shopping Enjoyment than Baby Boomers} \]

Prior Online Shopping Experience

Considering the circumstance that online shopping can still be classified as a relatively new experience for many consumers irrespective of their general internet experience, there are higher levels of uncertainty involved compared to shopping in brick-and-mortar stores (Laroche, Yang, McDougall, & Bergeron, 2005). Previous online shopping experiences shape consumers’ perceptions and attitudes towards this shopping mode. This accumulated experience can only be achieved through preceding, actual online purchasing, which consequently affects future behavior (Ling, Chai, & Piew, 2010). This effect concerns both information seeking and purchase behavior using the internet (Shim, Eastlick, Lotz, &
Several studies examined the effect of prior online shopping experience on online purchase intention and stated it to be significant and positive (Chen & Barnes, 2007; Jayawardhena, Wright, & Dennis, 2007; Park & Stoel, 2005; Ranganathan & Jha, 2007; Shim et al., 2001). In some instances, prior experience was found to represent the most significant antecedent of intention in this field (Ling et al., 2010). This finding contradicts Hansen (2006), stating that compared to general online shopping, OGS is accredited by some consumers with lower relative advantage and higher complexity, resulting in lower purchase intentions despite prior online shopping experience. However, this can be put in contrast to findings of other studies (Lim et al., 2009), highlighting the grocery segment as one where websites tend to be of lower complexity, allowing for easier purchasing procedures. Yet, if a consumer is used to and enjoys purchasing products online, the barrier to also purchasing groceries online is potentially lower, considering previous positive online shopping experiences and the formation of habitual behavior. Consumers with more extensive online shopping experience and enjoyment have been found to find it easier to use online services and are consequently more likely to perform internet purchasing (Lu, Cao, Wang, & Yang, 2011).

Therefore, taking the existent research on this construct into consideration, the following hypotheses are suggested:

**H3a: Prior Online Shopping Experience has a positive influence on the Online Grocery Shopping Intention**

**H3b: Millennials have higher levels of Prior Online Shopping Experience than Baby Boomers**

**Perceived Online Shopping Convenience**

In the context of shopping, the term convenience means the reduction of both effort and time involved (Huang & Oppewal, 2006). The attributed convenience of purchasing
products online has been found to be one of the determining factors of online purchasing adoption in the literature (Beauchamp, & Ponder, 2010; Jiang, Yang, & Jun, 2013; Moeller, Fassnacht, & Ettinger, 2009; Tanskanen et al., 2002). Here, the main convenience aspects are the possibility to avoid going to the store (Ramus & Nielsen, 2005) and being able to shop at any time of the day or night as well as on the go with mobile devices (Wang, Malthouse, & Krishnamurthi, 2015). The latter aspect, supported by user-friendly mobile applications, also makes the consumer less dependent on opening hours and facilitates the effective use of personal idle time (e.g. public transport rides, appointment waiting times).

Moreover, the consideration of certain demographic changes also highlights the convenience of online shopping and especially OGS. For example, because of rising numbers of dual-income couples, the reported time poverty of consumers is increasing, which is in favor of the time saving possibilities of shopping groceries online. Additionally, the possibility of having the products delivered and consequently avoiding physical effort is valued by older consumers and families with small children (Kim, Lee, & Park, 2014).

However, the convenience of online shopping is possibly relativized due to certain perceived drawbacks such as late delivery, faulty orders, undetermined waiting time for delivery and the involved immobility of the consumer as well as unfavorable return policies (Jiang et al., 2013). Especially in urgent cases, the time difference between online purchasing and actual reception of the products can be deemed inconvenient (Ramus & Nielsen, 2005).

Thus, the following hypotheses are presented in order to investigate whether and how the perceived convenience of using the online channel for shopping influences the consumer’s intention to adopt this method of purchasing groceries:

*H4a: Perceived Online Shopping Convenience has a positive influence on the Online Grocery Shopping Intention*

*H4b: Millennials have higher levels of Perceived Online Shopping Convenience than Baby Boomers*
A lack of intention to purchase online can be considered as the prime hindrance of further e-commerce advancement across retail segments (He, Lu, & Zhou, 2008). Therefore, in wake of the preceding literature review of relevant concepts and to trigger customer online purchase intention, players in the Austrian online grocery segment should be aware of the effects of risk and convenience perceptions as well as prior online shopping experience and shopping enjoyment on the consumers’ online purchase intention. In the scope of this study, the examination of previously identified consumer-oriented variables, their possibly direct effect on OGS intention and potential differences between generational cohorts, can add valuable insights into the construct of intention and the body of research.

Methods

Procedure and Sample

This study examines specific factors influencing the intention to adopt OGS among Austrian consumers and respective perceptions of two generational cohorts. The data were collected using two collection methods. First, an online survey was created with the Qualtrics Survey Software. The link was shared via the author’s Facebook account, in relevant Facebook groups as well as via email to reach as many potential respondents as possible. Second, paper versions of the survey were conveniently distributed across Vienna and Lower Austria areas. There was no participation restriction and no incentive involved in the completion of the survey. In total, 354 respondents (47% aged 20-35 and 46% aged 36-65 years old respectively; 64% females) completed the survey with valid answers. 14 questionnaires had to be excluded from the analysis due to missing answers. The data was statistically analyzed with the software IBM SPSS, Version 23.

Questionnaire and Measures

Out of a vast number of factors potentially influencing the OGS purchase intention, a versatile combination of four theoretically underpinned constructs was chosen to be
investigated in this study. Utilizing these multi-item measurement scales from the existent literature, a self-administered questionnaire was created. The survey instrument, originally constructed in English, was administered in German. A standard translation and back-translation procedure was used to ensure the equivalence of the measures in the English and German versions (Brislin, 1980).

The questionnaire started with a dichotomous variable asking the respondent whether they had previously purchased groceries online. In case of an affirmative answer, two multiple choice questions on purchasing frequency and initial reason to shop for groceries online were posed, adapted from research on consumer adoption reasons and situational factors in this context (Hand et al., 2009).

The close-ended questions introduced previously validated constructs derived from relevant literature and were used to measure the consumers’ perceptions as well as purchase intention towards groceries in the online channel. Therefore, no pre-testing was required.

*Perceived Internet Grocery Risk*

The perception of possible losses or harm specifically when buying groceries via the internet is measured with a four-item scale by Hansen (2006). A sample item is “A risk when buying groceries via the internet is receiving low quality products or incorrect items”.

*Grocery Shopping Enjoyment*

This construct is defined as the preference for shopping groceries in stores. It was measured through a four-item scale, adopted from Balushi and Lawati (2012). A sample item is “I really like to visit different supermarkets”.

*Prior Online Shopping Experience*

The four items of the variable *Prior Online Shopping Experience*, meaning the consumer’s existing experiences in the online shopping environment, are derived from Brunelle and Lapiere (2008). A sample item is “I feel comfortable using online stores“.

*Perceived Online Shopping Convenience*
The variable of Perceived Online Shopping Convenience is adopted from Khan and Rizvi (2012), represented by three items addressing consumer advantage perceptions. A sample item is “Online shopping is available 24/7 which makes life comfortable”.

*Online Grocery Shopping Intention*

The dependent variable was measured by a scale developed by Ranadive (2015) in the context of a study on OGS and the Theory of Planned Behavior, comprising four items. A sample item is “For future purchases, I plan to buy groceries products over the Internet”.

All variables, dependent and independent, were measured on a 5-point Likert scale as the attitude measurement, ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The full scales are presented in the appendices (Appendix C).

The final part included an open-ended question to give participants the chance to add comments, a multiple-choice question on preferred shopping incentives as well as demographic variables such as gender, age (categorized in five groups) and current employment status. The English and the German version of the survey are included in the appendices (Appendix D and Appendix E).

**Results**

**Descriptive Analysis**

--- INSERT TABLE 1 AND TABLE 2 ABOUT HERE ---

Out of all participants, about 23% indicated that they had previously purchased some type of grocery online and were posed two additional questions. Concerning the frequency of purchasing groceries online, merely 5% stated to purchase groceries online “2-3 times month”, while 22% had “tried it once” and 42% indicated to “rarely” buy groceries online.

With reference to research on adoption reasons and situational factors (Hand et al., 2009), those respondents who had already purchased groceries online were further asked to indicate their personal reason to first start or try out this mode of shopping. 27% of previous online grocery shoppers indicated “curiosity” and 40% stated that they had purchased
groceries such as packaged foods and sweets because of those products not being available in traditional supermarkets in their area.

Finally, to get some insights on suitable measures that companies could take to attract new online customers, possible offers by online grocery firms were proposed. The most important factors identified were “no delivery fee” and “money-back guarantee for fresh products”, with 68% and 46% of respondents, respectively, attributing those factors a positive influence on their OGS intention. Other incentives like standing orders and recipes with corresponding shopping lists were of interest to a negligent percentage of survey respondents.

**Reliability Test**

The reliability means the internal results consistency of the measures, indicated by Cronbach’s alpha. Using constructs measured by previously validated scales had been intended to ensure high levels of reliability in this study.

--- INSERT TABLE 3 ABOUT HERE ---

According to the literature, an alpha value higher than 0.7 indicates internal consistency at an acceptable level, while a value higher than 0.9 indicates internal consistency at an excellent level (Lance, Butts, & Michels, 2006). The scales for Perceived Internet Grocery Risk and Perceived Online Shopping Convenience displayed an alpha at an acceptable level (0.731 and 0.773, respectively), while the scales of Prior Online Shopping Experience and Future Intention displayed excellent consistency with alpha levels of 0.940 and 0.919, respectively.

Initially, the construct of Offline Grocery Shopping Enjoyment displayed an alpha value that was considered to be too low (0.547). Obviously, the social aspect of grocery shopping did not resonate with Austrian consumers in the sample. A larger scale pre-test would have revealed this at an earlier stage but was not intended due to time constraints. Considering that this construct had also previously been validated with fewer items (Verhoef, 2001), two items were removed, thus resulting in a Cronbach’s α value of 0.731.
Correlation Analysis

--- INSERT TABLE 4 ABOUT HERE ---

The Pearson correlation analysis presented in Table 4 displays the various relations and the respective correlation coefficients among the chosen constructs in the model. The analysis shows that the factors Perceived Online Shopping Convenience, Prior Online Shopping Experience as well as Perceived Internet Grocery Risk are significantly related to the OGS Intention. In these instances, the respective relations are significant at a 1% level.

Considering the positive correlation of the Offline Grocery Shopping Enjoyment construct with the OGS Intention, it can be presumed that it rather measured the consumers’ variety seeking in terms of grocery shopping. This newly conceptualized factor Grocery Variety Seeking (VAR) is significantly related to the OGS Intention at a 5% level and Prior Online Shopping Experience at a 1% level. However, as it is not significantly related to the other independent variables, indicating limited explanatory power in this model.

Overall, the OGS intentions of the respondents were low (\(M = 2.09, SD = 0.99\)) with 77.4% of respondents stating (strong) disagreement to the future buying intention statement.

Hypothesis Testing

In order to either confirm or reject the hypotheses formulated in this study, a multiple regression analysis and independent samples \(t\)-tests were performed.

Also in relation to the previous correlation analysis, these parametric methods were chosen in knowledge of the entailed controversy around the appropriate analysis of Likert scales. This decision was partly based on Norman (2010) and his stance against limiting the interpretation methods of this psychometric measure. Prior to conducting the analyses, tests on the data’s meeting of the required assumptions were performed. The analysis of standard residuals showed that the data contained no outliers (Std.Residual Min = -2.113, Std. Residual Max = 3.046). Concerning the assumption of collinearity, the respective test showed that multicollinearity was not a concern in this case (Tolerance and VIF values for all factors...
above/below 0.1 and 10, respectively). Moreover, the histogram of standardized residuals displayed the data containing approximately normally distributed errors. Also, the normal P-P plot of standardized residuals showed points following the line rather closely. Regarding the assumptions of homogeneity of variance and linearity, the scatterplot of standardized predicted values displayed that they were met. The Mahalanobis distance value was also examined and approved as appropriate. Therefore, the results of a multiple linear regression of the OGS Intention can be interpreted in the scope of this study. The regression analysis measured the effects of the independent variables (PRISK, VAR, POSE, OSCV) on the dependent variable (OGSINT).

The main results of the performed multiple regression are presented in Table 5. The F statistics of the proposed regression model was significant ($p < .001$). The adjusted $R^2$ was 0.29 for OGS Intention as a dependent variable. Therefore, approximately 29% of the variance of the OGS Intention can be explained by the factors Prior Online Shopping Experience, Perceived Online Shopping Convenience, Grocery Variety Seeking and Perceived Internet Grocery Risk. Considering the vast number of factors potentially influencing a consumer’s intention to shop for groceries online, the proposed model does provide explanatory power.

--- INSERT TABLE 5 ABOUT HERE ---

H1a posited that there is a negative relation between Perceived Internet Grocery Risk and OGS Intention. The relationship between these two constructs is found to be significant and negative ($\beta = -0.28, p < .001$). Thus, Perceived Internet Grocery Risk is a determinant of OGS Intention, H1a is supported.

It was subsequently hypothesized that the higher a respondent would score on Grocery Variety Seeking, the higher their score on OGS Intention. The analysis revealed a marginally significant and low but positive relationship ($\beta = 0.094, p < .04$).
The regression model with OGS Intention as a dependent variable revealed a significant positive effect of Prior Online Shopping Experience ($\beta = 0.17, p < .002$). Therefore, H3a is supported.

The respondents’ Perceived Online Shopping Convenience was hypothesized to positively influence their OGS Intention. The analysis indicated a significant positive effect ($\beta = 0.24, p < .0001$). Thus, H4a is supported.

To examine differences between Millennials and Baby Boomers in relation to their perceptions, independent sample $t$-tests were performed.

--- INSERT TABLE 6 ABOUT HERE ---

H1b proposed that Millennials display lower levels of Perceived Internet Grocery Risk than Baby Boomers. The results had statistical significance and indicated that on average, Millennials ($M = 3.1, SD = 0.70$) perceived Internet Grocery Risk to be lower than Baby Boomers ($M = 3.4, SD = 0.82$); $t (255) = -2.42, p = .016$. Thus, H1b is supported.

Considering the novel measurement of Grocery Variety Seeking, Millennials ($M = 3.4, SD = 0.93$) displayed higher levels than Baby Boomers ($M = 2.96, SD = 1.10$); $t (165.73) = 3.22, p = .002$;

Regarding Prior Online Shopping Experience, H3b proposed that Millennials would score higher than Baby Boomers. The results supported this hypothesis, with scores for Millennials ($M = 3.85, SD = 1.06$) and Baby Boomers ($M = 3.1, SD = 1.33$); $t (159) = 4.64, p < .001$.

H4b hypothesized that Millennials have higher levels of Perceived Online Shopping Convenience than Baby Boomers. This hypothesis was supported with Baby Boomers ($M = 3.81, SD = 0.93$) having significantly lower values than Millennials ($M = 4.04, SD = 0.76$); $t (162) = 2.03, p = .04$. H4b is supported.
Discussion

The circumstance that among survey respondents, almost a quarter had prior OGS experience and out of those, more than 50% were Millennials, can be explained by recent heavy investment and advertising of online grocers in the market as well as disposed consumer trial. Also, it was striking that 42% OG shoppers indicated taking part in this type of shopping not on a regular basis but “rarely”. This supports the assumption that purchasing groceries via the internet oftentimes complements existing shopping modes but does not necessarily substitute them, especially in case of suboptimal consumer experiences. This finding highlights the imperative for players in this market to transform undecided and irregular OG shoppers into regular shoppers (Hansen, 2008).

In line with the proposed OGS adoption reasons (Hand et al., 2009), more than a quarter of respondents indicated “curiosity” as their reason to initially use the online channel for grocery purchasing. However, the most prominent reason to first try OGS was the additionally created reason of “products not available offline”. This result clearly shows that Austrian consumers are currently to some extent willing to purchase groceries online, but more readily so when faced with unavailability of the desired products in brick-and-mortar stores. Here, food and drink specialist retailers in the market can easily communicate their value propositions to consumers. However, also store-based and pure online players in the grocery segment can emphasize the wider range of products obtainable via their online channel, in addition to offering other supply products and convenient delivery options.

The predominant choice of attractive offers was “no delivery fee”. This contradicts the results of Huang and Oppewal (2006) who suggest that delivery fees are influential but not the most important factor. Considering the high supermarket density in Austria, the time saving benefit of OGS that was implied to be most important to consumers is apparently of lower relevance for local consumers compared to the entailed delivery fees. Almost half of the respondents also chose the “money-back guarantee for fresh products”, alluding to the
consumers’ perceptions of risk when it comes to ordering perishable goods online (Mortimer et al., 2016).

Overall, the OGS intentions were quite low and even consumers who had experience with OGS displayed only slightly higher buying intentions for future purchases. Again, this can be attributed to the respondents’ curiosity and trial of this relatively new mode of grocery shopping but then returning to their grocery shopping habits. In the present situation, online grocers need to react and address critical issues such as risk perceptions to increase the likelihood of consumers to start and subsequently continue to shop for groceries online.

After all, the outcomes showed the significant negative effect of inherent risk perceptions on the consumer’s intention to shop for groceries online. This is in line with previous research on OGS (Hansen, 2005a; Hansen, 2006; Huang & Oppewal, 2006; Mortimer et al., 2016). In contrast to the possibly diminishing risk perceptions in terms of general online security, the majority of respondents indicated reservations about the quality of the delivered products. This risk was also found to be crucial in previous OGS research due to the perishability of some products purchased (Chu et al., 2010; Hand et al. 2009; Huang & Oppewal, 2006; Mortimer et al., 2016; Ramus & Nielsen 2005). In contrast, those respondents with OGS experience indicated lower levels of this type of risk perception, proving that repurchasing consumers are less hesitant concerning this mode of grocery shopping (Hansen, 2008). The delivery of false items was perceived as a substantial risk by respondents. This goes in line with findings by Cho (2004), stating that concerns about the product delivery influences the consumer’s online purchase behavior. Moreover, the return and exchange options were perceived by more than half of respondents as being worse online, corresponding to findings by Jiang et al. (2013). This indicates that the ease of unwanted item return is important to online shoppers when considering to buy groceries online.

The revealed positive effect of Perceived Online Shopping Convenience on OGS Intention also supports the findings of previous studies (Beauchamp, & Ponder, 2010; Jiang,
Yang, & Jun, 2013; Moeller et al., 2009). Specifically, the results of the study showed that the great majority of respondents appreciated the fact that online shopping is available 24/7. This indicates that consumers who perceive the convenience of shopping anytime and anywhere are more likely to display a positive intention to shop online, also for groceries (Ramus & Nielsen, 2005; Wang, Malthouse, & Krishnamurthi, 2015). Interestingly, decidedly fewer respondents expressed agreement to the statement on time savings of online shopping. According to Jiang et al. (2013), time savings per se might not be perceived as a substantial advantage of online shopping. A possible explanation for this could be that consumers attribute certain efforts to OGS, like the website’s search mechanisms, payment methods as well as delivery time slots, resulting in decreased time savings in their assessment.

A significant positive effect of online shopping experience was found, supporting previous studies stating that the more experience and ease a person has concerning online shopping in general, the higher their future online purchase intentions in various retail segments (Chen & Barnes, 2007; Jayawardhena, Wright, & Dennis, 2007; Park & Stoel, 2005). The entailed reduction of uncertainties through experience seems to be relevant for Austrian consumers. However, this finding can also be put in contrast to Hansen (2006), who stated that prior online shopping experience does not necessarily positively influence the consumer’s intention to adopt online grocery shopping. Nevertheless, the positive relationship in this study suggests that barriers for individuals who are competent in and comfortable with online shopping are lower and future purchasing intentions are higher. Admittedly, it needs to be acknowledged that the relationship is rather weaker than could have been expected. This can be explained by Austrian online consumers’ unfamiliarity with or general refusal of OGS.

The original variable of Offline Grocery Shopping Enjoyment was consequently conceptualized as Grocery Variety Seeking. Apparently, the social aspect of grocery shopping is of minor importance to most Austrian consumers, which mitigates the loss of personal contact when shopping online. In fact, rather than measuring the consumers’ traditional
shopping enjoyment, their variety seeking and desire for different grocery shopping options was captured. Rohm (2004) defines variety seeking as the consumer’s need for varied grocery purchasing behavior or the need to vary between different choices of stores and brands as well as products. Consequently, consumers with high variety seeking levels display higher interest in retail alternatives such as online channels. This was shown in this study since the construct significantly correlated with Prior Online Shopping Experience and had a significant effect on the Online Grocery Shopping Intention. Variety seeking as a relevant factor also aligns with research suggesting that consumers who shop for groceries online still visit offline stores to combine the benefits of online shopping with the self-service advantages of brick-and-mortar stores (Chu et al., 2010; Hand et al., 2009).

Millennials displayed lower concerns associated with purchasing groceries online, be it in terms of product quality or security issues, and higher levels of online shopping experience and enjoyment. This supports prior research on generational cohorts, characterizing Millennials as “digital natives” with more trust in this shopping channel as well as less focus on physically examining the purchased products (Ordun, 2015). The younger generational cohort also indicated higher convenience values which aligns with their characteristics elaborated in prior research showing them to be more appreciative of online shopping convenience and more tech-savvy, mitigating some potential sources of inconvenience in their perception (Kumar & Lim, 2008). An explanation for the lower variety seeking needs of Baby Boomers might be their satisfaction with current shopping options and preference of visiting their favored supermarket, as observed by A.T. Kearney (2013). Consequently, convenience represents a possible benefit of OGS to be emphasized to Austrian consumers, especially those belonging to younger generational cohorts, since they are more flexible concerning channel and product choices (Ordun, 2015).

With regards to the future OGS intention, however, there were no statistically significant differences between the two generational cohorts in this study. This implies that
the perceptions of the constructs do differ among the respondents but the future intention is rather negative for both. Possible reasons for this might be to the influence of additional factors negatively affecting the intention or the general consumer rejection of the online channel as a way of purchasing groceries.

Conclusions and Implications

The present study established the significant effects of Perceived Internet Grocery Risk, Perceived Online Shopping Convenience, Prior Online Shopping Experience, and Grocery Variety Seeking on OGS Intention, in descending order of importance. By combining theoretical online and grocery shopping concepts with Generational Cohort Theory into a versatile conceptual model, this study contributes to the scarce research in this field in the Austrian and European context. The findings of this study suggest that particularly perceived risk, despite consumers’ increasing online shopping experience, remains a relevant factor and substantially determines consumer intention. Finally, the model is extended by examining the variable of generational cohorts, with results indicating significant differences and the need for further research in this area.

The results of this study have several practical implications for firms in the online grocery business. First, a way to address the revealed consumers’ risk perceptions could be the “effective presentation of sensory attributes” proposed by Lim et al. (2009, p.841), such as specific product quality information and description of origin to mitigate the lack of personal examination. In addition, constantly improving the quality of products and delivery, and employing additional trust-building exercises, can combat perceived risks, resulting in improved consumer trust and a higher repurchasing probability (Mortimer et al., 2016; Nepomuceno, Laroche, & Richard 2014). Specifically, Baby Boomers should be educated on and convinced of the trustworthiness and quality of the respective firm’s online operations through offering extensive customer service and support as well as guarantees.
Also, OGS advertising in the Austrian market should stress convenience aspects and companies should try to increase the general convenience of their online shops through employing intuitive navigation and selection, easy and flexible payment options as well as effective delivery and return processes (Jiang et al., 2013).

Moreover, online retailers could specifically target consumers who are experienced online shoppers. In resonance with the findings of Laroche et al. (2005), firms should increase their efforts to facilitate the consumers’ initial few purchases of groceries online (e.g. no delivery fees, money-back guarantee) for consumers to become accustomed to shopping for groceries online. By reducing possible concerns through first-hand, positive experiences, these customers can be converted to regular shoppers. Nevertheless, consumers with limited or no online shopping experience at all should also be thought of as potential consumers in the long-term, due to increasing online shopping rates and given that evolving technology in this field increasingly supports online (grocery) shopping through the use of handy devices (e.g. Amazon Dash Button).

Regarding variety seeking, online grocers can benefit from addressing the consumer curiosity and willingness to try new things. After all, the online channel can offer more product choice and accessibility, which is likely to appeal to grocery variety seekers. The generational cohort of Millenials seems to be particularly receptive for this advantage of online grocery shopping. Here, the transformation of casual to regular shoppers is crucial for online grocery companies and can be addressed by continuously surpassing quality expectations, providing attractive online offers and ensuring customer satisfaction.

In conclusion, players in the Austrian market face the challenge of not only meeting conventional standards of grocery retailing but offering additional and compelling value for consumers in the online setting.
References


Norman, G. (2010). Likert scales, levels of measurement and the “laws” of statistics. *Advances in Health Sciences Education, 15*, 625–632


Appendices

Appendix A: Limitations and Suggestions for Future Research

As any research, this study is subject to certain limitations. First, although this thesis was written with full-time commitment, both time and page number constraints were present and restrictive in the development of the conceptual model, influencing choices to ensure feasibility. The necessary use of previously validated scales also affected the appropriate measurement of some constructs. Second, the construct of Grocery Shopping Enjoyment had to be adapted, resulting in the measuring of consumers’ Grocery Variety Seeking. Third, this research was done within the specific context of online grocery shopping, a field where consumers are subject to habits and traditional behaviors. As such, the study investigated specific (grocery) shopping constructs identified in the literature and their direct relation to the OGS intention while more general psychological constructs determining intention were not included in the scope of this study. Fourth, although after consultation of experts in this area, the statistical analyses were performed by the author.

Future research can investigate the proposed model in other countries where this online retail segment is starting to evolve. Regarding the examined differences among generational cohorts, a larger and more inclusive sample could potentially reveal clearer results and therefore more definite implications. Moreover, examining additional generational cohorts, such as Generation X, could also provide valuable insights. Finally, future research could add qualitative methods and pursue a mixed methods approach, gaining deeper knowledge of relevant perceptions and attitudes towards online grocery shopping in Austria.
## Appendix B: Measurement Items

<table>
<thead>
<tr>
<th>Construct</th>
<th>Item Code</th>
<th>Items</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Internet</td>
<td>PRISK 1</td>
<td>Return and exchange opportunities are not as good on the internet as in the supermarket</td>
<td>Hansen (2005)</td>
</tr>
<tr>
<td>Grocery Risk (PRISK)</td>
<td>PRISK 2</td>
<td>A risk when buying groceries via the internet is receiving low quality products or incorrect items</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PRISK 3</td>
<td>Security around payment on the internet is not good enough</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PRISK 4</td>
<td>There are too many untrustworthy shops on the internet</td>
<td></td>
</tr>
<tr>
<td>Variety Seeking (VAR)</td>
<td>VAR 1</td>
<td>I like to shop in supermarkets that I do not know</td>
<td>Balushi and Lawati (2012), adapted from Verhoef and Langerak (2001)</td>
</tr>
<tr>
<td></td>
<td>VAR 2</td>
<td>I really like to visit different supermarkets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VAR 3</td>
<td>I like to meet other people in the supermarket</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VAR 4</td>
<td>I consider shopping a big hassle*</td>
<td></td>
</tr>
<tr>
<td>Prior Online</td>
<td>POSE 1</td>
<td>I am experienced with online store use</td>
<td>Brunelle and Lapierre (2009)</td>
</tr>
<tr>
<td>Shopping Experience</td>
<td>POSE 2</td>
<td>I feel competent using online stores</td>
<td></td>
</tr>
<tr>
<td>(POSE)</td>
<td>POSE 3</td>
<td>I feel comfortable using online stores</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POSE 4</td>
<td>I feel that online stores are easy to use</td>
<td></td>
</tr>
<tr>
<td>Perceived Online</td>
<td>OSCV1</td>
<td>Online shopping saves a lot of time</td>
<td>Khan and Rizvi (2012)</td>
</tr>
<tr>
<td>Shopping Convenience</td>
<td>OSCV 2</td>
<td>Online shopping is available 24/7 which makes life comfortable</td>
<td></td>
</tr>
<tr>
<td>(OSCV)</td>
<td>OSCV 3</td>
<td>Delivery of the products at door step saves time and physical exertion</td>
<td></td>
</tr>
<tr>
<td>OGS Intention (INT)</td>
<td>INT 1</td>
<td>For future purchases, I plan to search for grocery products online</td>
<td>Ranadive (2015)</td>
</tr>
<tr>
<td></td>
<td>INT 2</td>
<td>For future purchases, I plan to buy grocery products over the Internet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT 3</td>
<td>I plan to spend time to learn about online grocery shopping options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INT 4</td>
<td>I will take more time to search for online grocery as an alternative</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Tables

Table 1 Sample characterization

<table>
<thead>
<tr>
<th>Gender (%)</th>
<th>Age group (%)</th>
<th>OG Shopper (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>35.4; 2.3; 20.6; 4.5</td>
<td>Yes</td>
</tr>
<tr>
<td>Female</td>
<td>64.6; 47.0; 25.4; 19.75</td>
<td>No</td>
</tr>
</tbody>
</table>

Current Employment Status (%), n=354

<table>
<thead>
<tr>
<th>Student</th>
<th>Fulltime Empl.</th>
<th>Parttime Empl.</th>
<th>Fulltime homemaker</th>
<th>Unemployed</th>
<th>Retired</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.4</td>
<td>46.9</td>
<td>12.2</td>
<td>1.7</td>
<td>0.3</td>
<td>5.1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Table 2 Frequency Analysis

<table>
<thead>
<tr>
<th>Online Grocery Shopping Frequency (%), n=82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
</tr>
<tr>
<td>2-3 times a week</td>
</tr>
<tr>
<td>2-3 times a month</td>
</tr>
<tr>
<td>Once a month</td>
</tr>
<tr>
<td>Once every 2-5 months</td>
</tr>
<tr>
<td>Rarely</td>
</tr>
<tr>
<td>Tried once</td>
</tr>
<tr>
<td>Used to but not anymore</td>
</tr>
<tr>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
</tr>
<tr>
<td>4.8</td>
</tr>
<tr>
<td>13.4</td>
</tr>
<tr>
<td>14.6</td>
</tr>
<tr>
<td>41.5</td>
</tr>
<tr>
<td>22.0</td>
</tr>
<tr>
<td>3.7</td>
</tr>
</tbody>
</table>

Initial Reason(s) for OGS (%), multiple answers possible, n=82

<table>
<thead>
<tr>
<th>Factors positively influencing intention (%), multiple answers possible, n=354</th>
</tr>
</thead>
<tbody>
<tr>
<td>No delivery fee (starting at a certain purchase value)</td>
</tr>
<tr>
<td>Narrower delivery slots</td>
</tr>
<tr>
<td>Money-back guarantee for fresh products (e.g. fruit, meat) in case of low quality</td>
</tr>
<tr>
<td>Special online promotions</td>
</tr>
<tr>
<td>Standing orders (saved shopping lists, ordered automatically in chosen intervals)</td>
</tr>
<tr>
<td>Recipes and corresponding shopping lists</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>65.8</td>
</tr>
</tbody>
</table>

Table 3 Reliability Analysis

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Sources</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Internet Grocery Risk</td>
<td>4</td>
<td>Hansen, 2005;</td>
<td>.731</td>
</tr>
<tr>
<td>Grocery Variety Seeking</td>
<td>2</td>
<td>Balushi and Lawati, 2012; adapted from Verhoef and Langerak, 2001;</td>
<td>.756</td>
</tr>
<tr>
<td>Prior Online Shopping Experience</td>
<td>4</td>
<td>Brunelle and Lapierre, 2009;</td>
<td>.940</td>
</tr>
<tr>
<td>Perceived Online Shopping Convenience</td>
<td>3</td>
<td>Khan and Rizvi, 2012;</td>
<td>.773</td>
</tr>
<tr>
<td>Future OGS Intention</td>
<td>4</td>
<td>Ranadive, 2015;</td>
<td>.919</td>
</tr>
</tbody>
</table>
### Table 4 Correlation Analysis and Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>OSCV</th>
<th>POSE</th>
<th>PRISK</th>
<th>VAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSCV</td>
<td>3.93</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSE</td>
<td>3.46</td>
<td>1.25</td>
<td>.461**</td>
<td></td>
<td>-.273**</td>
<td>-.424**</td>
</tr>
<tr>
<td>PRISK</td>
<td>3.25</td>
<td>0.77</td>
<td>-.461**</td>
<td>.140**</td>
<td>-.016</td>
<td></td>
</tr>
<tr>
<td>VAR</td>
<td>3.16</td>
<td>1.08</td>
<td>.045</td>
<td>.140**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OGSINT</td>
<td>2.09</td>
<td>0.99</td>
<td>.398**</td>
<td>.412**</td>
<td>-.417**</td>
<td>.134*</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01.

### Table 5 Multiple Regression Results Variables Predicting OGS Intention

<table>
<thead>
<tr>
<th>Variables</th>
<th>Std.Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAR</td>
<td>0.094</td>
<td>2.09</td>
<td>.037*</td>
</tr>
<tr>
<td>POSE</td>
<td>0.164</td>
<td>3.00</td>
<td>.002**</td>
</tr>
<tr>
<td>PRISK</td>
<td>-0.293</td>
<td>-5.83</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>OSCV</td>
<td>0.230</td>
<td>4.69</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>37.355</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01.

### Table 6 Independent Samples T-test for Millenials and Baby Boomers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Generation</th>
<th>N</th>
<th>Mean</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Internet Grocery Risk</td>
<td>Millennials</td>
<td>164</td>
<td>3.13</td>
<td>-2.42 255 .016*</td>
</tr>
<tr>
<td></td>
<td>Baby Boomers</td>
<td>93</td>
<td>3.36</td>
<td></td>
</tr>
<tr>
<td>Grocery Variety Seeking</td>
<td>Millennials</td>
<td>164</td>
<td>3.40</td>
<td>3.22 165.73 &lt;.001**</td>
</tr>
<tr>
<td></td>
<td>Baby Boomers</td>
<td>93</td>
<td>2.96</td>
<td></td>
</tr>
<tr>
<td>Prior Online Shopping Experience</td>
<td>Millennials</td>
<td>164</td>
<td>3.85</td>
<td>4.64 158.69 &lt;.001**</td>
</tr>
<tr>
<td></td>
<td>Baby Boomers</td>
<td>93</td>
<td>3.10</td>
<td></td>
</tr>
<tr>
<td>Perceived Online Shopping Convenience</td>
<td>Millennials</td>
<td>164</td>
<td>4.05</td>
<td>2.03 161.94 .04*</td>
</tr>
<tr>
<td></td>
<td>Baby Boomers</td>
<td>93</td>
<td>3.81</td>
<td></td>
</tr>
<tr>
<td>OGS Intention</td>
<td>Millennials</td>
<td>164</td>
<td>2.20</td>
<td>1.74 255 .083</td>
</tr>
<tr>
<td></td>
<td>Baby Boomers</td>
<td>93</td>
<td>1.97</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01.
Appendix D: Questionnaire in English

Survey on Online Grocery Shopping

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 online grocery shopping and 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 or would like to have a summary of the results, please feel free to contact me at 24794@novasbe.pt. Thank you for your time and effort!

1. Have you ever purchased groceries online?
   □ Yes
   □ No
   If you answered „Yes“, please answer questions 2 and 3 and then the following questions.
   If you answered „No“, please move on to question 4, then continue with the following questions.

2. How often do you buy groceries online?
   □ Daily
   □ 2-3 times a week
   □ 2-3 times a month
   □ Once a month
   □ Once every 2-5 months
   □ Rarely
   □ Tried once
   □ Used to but not anymore

3. Why did you first start online grocery shopping?
   (Multiple answers possible)
   □ Mobility problems
   □ Health problems
   □ Shopping too tiring
   □ Had a baby
   □ Avoid shopping with children
   □ No time to shop
   □ No car
   □ Recommendation
   □ Curiosity
   □ Other (please specify): ____________

4. Please rate how much you personally agree or disagree with these statements on shopping for groceries in a store.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like to shop in supermarkets that I do not know</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I really like to visit different supermarkets
I like to meet other people in the supermarket
I consider shopping a big hassle

5. Please rate how much you personally agree or disagree with these statements on your prior online purchase experience.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am experienced with online store use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel competent using online stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel comfortable using online stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel that online stores are easy to use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Please rate how much you personally agree or disagree with these statements on the risk when shopping for groceries online.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return and exchange opportunities are not as good on the internet as in the supermarket</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A risk when buying groceries via the internet is receiving low quality products or incorrect items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security around payment on the internet is not good enough</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are too many untrustworthy shops on the internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Please rate how much you personally agree or disagree with these statements on online shopping convenience.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online shopping saves a lot of time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online shopping is available 24/7 which makes life comfortable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery of the products at doorstep saves time and physical exertion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Please rate how much you personally agree or disagree with these statements on your future intentions to shop for groceries online.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>For future purchases, I plan to search for grocery products online</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For future purchases, I plan to buy grocery products over the Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I plan to spend time to learn about online grocery shopping options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I will take more time to search for online grocery as an alternative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. What factor(s) are most important in your evaluation of online grocery shopping? (Multiple answers possible)
- No delivery fee (starting at a certain purchase value)
- Narrower delivery slots
- Money-back guarantee for fresh products (e.g. fruit, meat) in case of low quality
- Special online promotions
- Standing orders (saved shopping lists, ordered automatically in chosen intervals)
- Recipes and respective shopping lists
- Other (please specify): __________

10. Please add any additional comments/thoughts on online grocery shopping!

11. Gender
- Male
- Female

12. Age
- under 20
- 20-35
- 36-49
- 50-65
- over 65

13. Current Employment Status
- Student
- Fulltime employed
- Parttime employed
- Full-time homemaker
- Unemployed
- Retired
Appendix E: Questionnaire in German

Umfrage über den Online-Lebensmittelhandel

Im Rahmen meiner Masterarbeit an der NOVA School of Business and Economics in Lissabon, Portugal untersuche ich das KonsumentInnenverhalten im Online-Lebensmittelhandel. Die Teilnahme an der Studie erfolgt freiwillig und dauert maximal 5 Minuten. Ihre Daten und Angaben bleiben selbstverständlich anonym und werden streng vertraulich behandelt.

Sollten Sie Fragen zu dieser Studie oder Interesse an den Ergebnissen haben, senden Sie einfach ein Email an 24794@novasbe.pt.

Vielen Dank für Ihren wichtigen Beitrag zu meiner Masterarbeit!

14. Haben Sie bereits Lebensmittel im Internet eingekauft?

☐ Ja
☐ Nein

Wenn Sie mit „Ja“ geantwortet haben, machen Sie bitte weiter mit Frage 2
Wenn Sie mit „Nein“ geantwortet haben, machen Sie bitte weiter mit Frage 4

15. Wie oft kaufen Sie Lebensmittel im Internet ein?

☐ Täglich
☐ 2-3 Mal pro Woche
☐ 2-3 Mal pro Monat
☐ Einmal im Monat
☐ Alle 2-5 Monate
☐ Selten
☐ Einmal ausprobiert
☐ Früher regelmäßig, jetzt nicht mehr

16. Warum haben Sie erstmals Lebensmittel im Internet gekauft?
   (Mehrfachnennungen möglich)

☐ eingeschränkte Mobilität
☐ gesundheitliche Probleme
☐ Einkaufen zu anstrengend
☐ Einkaufen mit Kindern vermeiden
☐ Keine Zeit zum Einkaufen
☐ Kein Auto
☐ Empfehlung
☐ Neugierde
☐ Sonstiges: __________________
17. In welchem Maße stimmen Sie den folgenden Aussagen über das Einkaufen von Lebensmitteln zu?

<table>
<thead>
<tr>
<th>Aussage</th>
<th>Stimme gar nicht zu</th>
<th>Stimme eher nicht zu</th>
<th>Teils/teils</th>
<th>Stimme eher zu</th>
<th>Stimme voll und ganz zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ich probiere gerne neue Supermärkte aus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich gehe gerne in verschiedene Supermärkte</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich gehe gerne in den Supermarkt weil ich dort unter Leute komme</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Für mich ist das Einkaufen von Lebensmitteln ein großer Aufwand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18. In welchem Maße stimmen Sie den folgenden Aussagen über Online-Shops im Allgemeinen zu?

<table>
<thead>
<tr>
<th>Aussage</th>
<th>Stimme gar nicht zu</th>
<th>Stimme eher nicht zu</th>
<th>Teils/teils</th>
<th>Stimme eher zu</th>
<th>Stimme voll und ganz zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ich habe Erfahrung mit der Nutzung von Online-Shops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich kenne mich gut aus im Umgang mit Online-Shops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich fühle mich wohl beim Einkaufen in Online-Shops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich finde, dass Online-Shopping einfach und unkompliziert ist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. In welchem Maße stimmen Sie den folgenden Aussagen über die Risiken beim Kauf von Lebensmitteln im Internet zu?

<table>
<thead>
<tr>
<th>Aussage</th>
<th>Stimme gar nicht zu</th>
<th>Stimme eher nicht zu</th>
<th>Teils/teils</th>
<th>Stimme eher zu</th>
<th>Stimme voll und ganz zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die Rückgabe- und Umtauschmöglichkeiten sind im Internet schlechter als im Supermarkt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wenn man Lebensmittel online einkauft besteht das Risiko, dass man die falschen oder mangelhafte Produkte geliefert bekommt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Die Zahlungssicherheit beim Einkaufen im Internet ist nicht immer gegeben</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Es gibt zu viele unzuverlässige Online-Shops

<table>
<thead>
<tr>
<th>Aussage</th>
<th>Stimme gar nicht zu</th>
<th>Stimme eher nicht zu</th>
<th>Teils /teils</th>
<th>Stimme eher zu</th>
<th>Stimme voll und ganz zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beim Onlineshoppen kann viel Zeit gespart werden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onlineshoppen ist jederzeit möglich, das ist angenehm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Die Zustellung der Produkte nach Hause erspart Zeit und körperliche Anstrengung</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. In welchem Maße stimmen Sie den folgenden Aussagen über Ihre Absichten im Zusammenhang mit dem Lebensmittelkauf im Internet zu?

<table>
<thead>
<tr>
<th>Aussage</th>
<th>Stimme gar nicht zu</th>
<th>Stimme eher nicht zu</th>
<th>Teils/teils</th>
<th>Stimme eher zu</th>
<th>Stimme voll und ganz zu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Für zukünftige Einkäufe habe ich vor, mich online über Lebensmittelangebote zu informieren</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Für zukünftige Einkäufe habe ich vor, Lebensmittel über das Internet zu kaufen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich habe vor, mich über die verschiedenen Möglichkeiten des Online- Lebensmittelkaufs zu erkundigen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ich werde mir in Zukunft mehr Zeit nehmen um zu recherieren, ob der online Lebensmittelkauf eine Option für mich sein könnte</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. Welche Angebote wären ein Anreiz für Sie Lebensmittel im Internet zu kaufen?
   (Mehrfachnennungen möglich)

- Keine Zustellungsgebühr (ab einem gewissen Einkaufswert)
- Engere Lieferzeitfenster (z.B. 1 Stunde)
☐ Geld-zurück-Garantie für Frischware (z.B. Obst, Fleisch) bei Lieferung mangelhafter Produkte
☐ Spezielle Online-Aktionen
☐ Daueraufträge (Einkaufsliste speichern, in gewünschten Zeitabständen liefern lassen)
☐ Rezepte im Online-Shop und entsprechende Einkaufslisten
☐ Sonstiges: ____________________________________________

23. Bitte fügen Sie hier eventuelle Kommentare/Gedanken über den Lebensmittelhandel im Internet an!

24. Geschlecht

☐ Männlich
☐ Weiblich

25. Alter

☐ unter 20
☐ 20-35
☐ 36-49
☐ 50-65
☐ über 65

26. Erwerbsstatus

☐ Studium
☐ Vollzeit erwerbstätig
☐ Teilzeit erwerbstätig
☐ ausschließlich haushaltsführend
☐ arbeitslos
☐ in Pension
☐ Sonstiges