



# Resilient shopping behaviours by change, not by chance: are disruptive events' effects permanent?☆

Marina Gigliotti, Francesco Rizzi<sup>\*</sup>

Department of Economics, University of Perugia, Via Alessandro Pascoli, 06123, Perugia, Italy

## ARTICLE INFO

Handling Editor: H. Timmermans

### Keywords:

Values-beliefs-norms theory  
Alphabet theory  
Context  
Habits  
Consumer behaviour  
Distribution channel

## ABSTRACT

The paper investigates the impact of disruptive events on distribution channels. In particular, it explores the mechanism underlying changes in consumer shopping behaviours during stressful events and their persistence in the aftermath. An empirical study on 2019 Italian consumers allowed us to shed light on the drivers and the dynamics of the changes related to the COVID-19 pandemic from an Alphabet Theory perspective. The paper has the merit of providing one of the first operationalisations of this theoretical framework and proving its capability to, on the one hand, add granularity to the values-beliefs-norms Theory during a disruptive event through habits and context and, on the other hand, to provide retailers with a better understanding of the persisting effects in the aftermath. Results show that context exerts a significant influence on attitudes and habits and that the related behavioural changes are destined to be persistent when associated with new habits that imply the development of new competencies and attitudes whose object carries emotional value.

## 1. Introduction

History is studded with grand events such as wars or other disasters that trigger chain reactions, causing profound cultural, attitudinal and behavioural changes (Kaytaz and Gul, 2014). In these circumstances, people adapt their behaviour to cope with emergency conditions (Sarmiento et al., 2019), and new customs may take root, generating, in the aftermath, new routines and behaviours that sometimes become permanent (Güney and Sangün, 2021; Vermeir et al., 2020).

This paper explores the short- and long-term modifications of consumer shopping behaviours after a stressful event focusing, in particular, on the consumers' retail channel choices.

We used the COVID-19 pandemic as the setting for our empirical research due to its pervasiveness and the possibility of analysing the consumers' reactions while they occur. According to the World Bank, "Coronavirus 2019 (COVID-19's) impact has gone far beyond its direct effect on morbidity and mortality" (World Bank HealthNutrition and Population, 2020).

As Governments worldwide decided to limit the spread of the virus by introducing lockdowns during Spring 2020, most of the supply chains were interrupted. Only a few economic activities remained open, forcing

consumers to adopt new habits like shopping alone, waiting to enter a shop, in-store forced path, social distancing, avoiding touching products and surfaces or stockpiling (Martin-Neuninger and Ruby, 2020). Furthermore, unprecedented drops and excessive increases in demand challenged retailers' resilience (Abdelnour et al., 2020).

In this period, online purchasing and home delivery remarkably increased, together with further attention to local products and economic activities (Shveda, 2020), as confirmed by a McKinsey report revealing that fear, attention to safety, and the intention to protect specific economic activities (especially the local ones) may have caused the consumers' shift towards online and neighbourhood shops (Kohli et al., 2020).

However, despite these early analyses, little is still known about the related change mechanisms.

This paper contributes to the literature by advancing the current understanding of the dynamics underlying these switches from a consumer's perspective, which also intends to help retailers learn lessons from this unprecedented event and increase their preparedness for future disruptions. In particular, this paper provides evidence of mechanisms underlying short- and long-term changes in behavioural intentions and analyses whether and how long consumers expect this

☆ This paper is a result of the project "Metriche e dinamiche di sviluppo della sostenibilità nell'economia e nel management d'impresa", funded by the "Fondo Ricerca di Base 2017 e 2019" of the University of Perugia

<sup>\*</sup> Corresponding author.

E-mail addresses: [marina.gigliotti@unipg.it](mailto:marina.gigliotti@unipg.it) (M. Gigliotti), [francesco.rizzi@unipg.it](mailto:francesco.rizzi@unipg.it) (F. Rizzi).

<https://doi.org/10.1016/j.jretconser.2023.103391>

Received 13 October 2022; Received in revised form 2 January 2023; Accepted 24 April 2023

Available online 4 May 2023

0969-6989/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

crisis's consequences will persist in post-shock scenarios. To this end, it answers the following research questions: RQ1) what are the drivers of the changes in consumer shopping behaviour during stressful events? RQ2) to what extent are these changes permanent in the aftermath?

The paper is structured as follows. Section 2 reviews the internal and external factors affecting purchases during disruptive events. To this end, it analyses and builds the research hypotheses on the Alphabet theory, which extends the Value-Beliefs-Norms (VBN) theory by accounting for context and habits variables. Section 3 provides information on the empirical research methodology based on a survey among 2,019 Italian consumers. This section describes the setting, measurements, data collection, and analysis. Section 4 proposes the main results from the collected data and the hypotheses testing. Section 5 proposes a literature-based discussion of the results and provides the first quantitative validation of the Alphabet Theory's conceptual model. Finally, focusing on theoretical and managerial implications stemming from the revealed primacy of attitudes over habits, Section 6 presents the paper's conclusions, limitations, and directions for further research.

## 2. Theoretical background and hypotheses development

### 2.1. Internal factors affecting purchases during disruptive events

Consumer behaviour is a widely explored field of research that encompasses many theoretical approaches with the ambition to interpret the internal and external drivers affecting buying decisions.

Focusing on internal drivers, the VBN theory (Stern et al., 1999; Stern, 2000) is one of the most influential frameworks that adopt psychographic variables (such as attitude and beliefs) as predictors of intention to buy and buying behaviour.

The VBN theory has been successfully applied to explain how psychographic variables affect purchasing behaviours in highly emotional circumstances, as in pro-environmental and pro-social settings (Groening et al., 2018). Considering consumer behaviour towards food products, significant causal links among values, beliefs, and norms emerge, just to cite a few, for natural foods (Carfora et al., 2021) and locally produced organic foods (Chen, 2020). Concerning how consumers supply their foods, these relationships are tested in the case of traditional restaurant diners' intentions (Youn et al., 2020) and drone food delivery services (Hwang et al., 2020). The VBN theory is deemed appropriate also for other circumstances where emotional responses such as protection, fear or hope may induce behavioural changes, like an economic crisis (Kaytaz and Gul, 2014) or a pandemic (Kim et al., 2021).

In detail, the VBN theory builds on the values theory of Schwartz (1992) to identify and classify values into three categories: altruism, egoism and biospheric (Stern, 2000). Beliefs are composed of three sub-variables that affect each other sequentially: the ecological worldview that derives from the New Ecological Paradigm (NEP) theorised by Dunlap and Van Liere (1978); the awareness of consequences (AC), that is, the belief of the repercussions of certain behaviours or conditions on others; the ascription of responsibility (AR) considered as the perception of themselves in acting to prevent negative consequences. Personal norms or moral obligations in engaging in a particular behaviour build on the Norm Activation Model (NAM) developed by Schwartz (1977).

In the original formulation of the VBN theory, Stern et al. (1999) theorised the mediating role of beliefs when values influence norms. In other words, values, beliefs, and norms are represented as a chain of behavioural antecedents.

Grounding on the VBN theory and the first insights on how the pandemic influences individual goal-setting and motivations (Zheng et al., 2021), we expected that behavioural changes during the pandemic reflect contextual alterations of values and beliefs. To build our hypothesis, we adopted an "activation" perspective, according to which values, beliefs and norms are considered "dormant" as long as they are elicited and evoked by particular situations and contexts (Biel and Thøgersen, 2007). Only after the consumer is exposed to a relevant

situation or information, context-specific values, beliefs, and norms are activated and capable of affecting contingent choices and behaviours (Verplanken and Holland, 2002). We thus propose that:

**H1.** The level of activation of context-specific beliefs is related to the level of activation of context-specific values

**H2.** The level of activation of context-specific norms is related to the level of activation of context-specific beliefs

### 2.2. External factors affecting purchases during disruptive events: the role of context

According to Sheth (2020), "all consumption is time-bound and location bound". The analysis of purchasing behaviour should thus consider the external conditions in which the action takes place and how Context exerts its influence.

Context is not a new issue in consumer behaviour studies, and the role of external variables and stimuli has been widely investigated for a long time (Belk, 1975). To explain how external drivers work, Guagnano et al. (1995) proposed the Attitude-Behaviour-Context (ABC) theory, which conceives Context as the set of extrinsic facilitators or obstacles that can ease or hinder behaviours. The application of this theory to the food industry provides abundant evidence of how contextual factors affect consumers' decisions (Loebnitz et al., 2015; Sirieix et al., 2013) in both in-store (Park et al., 1989; Chen et al., 2021) and online settings (Dominici et al., 2021). These studies consider a variety of contextual factors, like availability, price and seasonal variations (Feldmann and Hamm, 2015), shopping companions (Chen et al., 2021) and the presence of sustainability labels or other product information (Rondoni and Grasso, 2021). Although the sub-variables that compose the Context are not univocal, they are always considered exogenous factors to the psychology of the consumer.

In the pursuit of building a unifying framework that encompasses both direct and indirect links between Context and behaviours, Zepeda and Deal (2009) introduced the Alphabet Theory. This theory sheds light on the interplays between Context, psychographic traits and behaviours by combining the VBN theory (to assess one person's attitudes) and the ABC theory and integrating additional overarching behavioural drivers: demographics, knowledge, information seeking and habits. As shown in Fig. 1, this theoretical approach, one of the most comprehensive but less operationalised ones, interprets Context as having a central role in the model because it simultaneously influences a person's attitudes (VBN) and habits (Zepeda and Deal, 2009). This view resonates with the evidence that, as an example, policy interventions are contextual factors that can influence behaviours both directly and through changes in one's psychology, e.g. by making people aware of social issues (Steg and Vlek, 2009) or influencing individual beliefs, spirituality and the care for others (Zwanka and Buff, 2021).

In light of these studies, the COVID-19 pandemic can be considered a contextual factor that can force people to adapt behaviours to

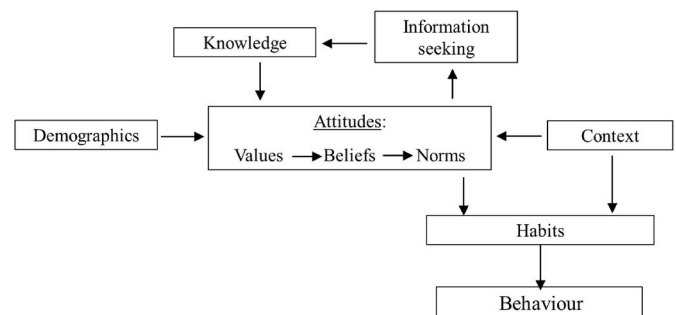


Fig. 1. Alphabet Theory's conceptual model. Source: Zepeda and Deal (2009).

unprecedented circumstances (Pop et al., 2023). The pandemic generated many social and economic changes (Ceylan et al., 2020), including new buying approaches and motives (Hall et al., 2021b; Laato et al., 2020) because of both the restrictive measures implemented by the governments and the changes in people's feelings and attitudes towards stressful situations (Zwanka and Buff, 2021).

According to the aforementioned theoretical contributions, we assume that sharp modifications of the Context generate context-specific norms. We thus hypothesise that:

**H3.** The higher the perceived relevance of the Context, the higher the level of activation of context-specific norms

### 2.3. Consumers' habits during disruptive events

Zepeda and Deal (2009) developed their Alphabet Theory based on empirical research on organic and local food consumer behaviour, showing habits' key role in directly influencing behaviour. Habits, in turn, depend on both Context and attitudes.

Verplanken et al. (1997) defined habits as "earned sequences of acts that become automatic responses to specific situations, which may be functional in obtaining certain goals or end states". This definition corroborates the link between a goal and a specific behaviour (the response), including buying behaviour. Jansson et al. (2010) have problematised this link, highlighting how consolidated and strong habits negatively influence innovations adoption and, by similarity, new behaviours, leading to preservative and automatic actions.

Extant studies offer a wide meaning to what are "habits". In defining their theory, Zepeda and Deal (2009) interpret habits as dietary restrictions or cooking habits (e.g. age when cooking began or reason for starting cooking). In addition, shopping frequency can also be considered a habit influencing buying behaviour (Schäufele and Hamm, 2017), as well as interest in cooking or responsibility for food purchases (Stampa et al., 2020).

Although the considered habits depend on the type of behaviour analysed, and then they involve copious variables, generally, they are related to what a person is used to doing (Kelley et al., 2019), and that becomes one's personal routine in a specific situation (Rivaroli et al., 2020). Moreover, habits are, by definition, persistent over time and repetitive (Ji and Wood, 2007). Revealing the mechanisms underlying their formation and their potential modifications can contribute to adding knowledge to the consumer behaviour literature. To this end, one of our goals is to fill the gap in literature relating to what extent a disruptive event can cause changes in habits immediately and in the aftermath, and, in turn, how they may generate modifications in consumers' choices. Some first insights (Bender et al., 2022) confirm how the COVID-19 pandemic caused modifications in food consumption habits, and this encourages us to investigate this aspect further.

Considering the central role habits play in the Alphabet Theory, as they are the variable that directly affects behaviour and depends on attitudes and Context, it is fundamental to bring to light their dynamics to assess the model. In fact, despite the increasing number of studies grounding their conceptualisation on the Alphabet Theory (Stampa et al., 2020), empirical evidence is still needed at scale. This theoretical approach is currently adopted to mainly carry out literature reviews aimed at systematically analysing the extant findings on specific parts of the overall conceptual model and specific product categories, especially food. See, for example, the case of sustainable wine (Schäufele and Hamm, 2017), local products (Feldmann and Hamm, 2015), food products craftsmanship (Rivaroli et al., 2020), pasture-raised livestock products (Stampa et al., 2020). These contributions have the merit of confirming how the Alphabet Theory is a complete and detailed approach to understanding consumer behaviour and prove, at least theoretically, the existence of the interrelations originally theorised by Zepeda and Deal (2009). Unfortunately, to the best of our knowledge, no studies empirically test the overall model, jointly analysing the different

interplays.

Consequently, to search for empirical support for this theoretical model, grounding on the fact that forming new habits goes hand in hand with changing other product-related factors and, in particular, norms (Taghikhah et al., 2020), we hypothesise that:

**H4.** The level of activation of norms is related to changes in habits

Based on previous works arguing that consumer purchase behaviour takes place in a specific context which, in turn, shapes habits through repeating behaviours (Stampa et al., 2020), we hypothesise that:

**H5.** Changes in the perceived Context are related to changes in habits

Grounding on previous evidence that habits have a lock-in effect into congruent buying behaviours (see, e.g. Tempesta and Vecchiato (2013) for an example concerning milk purchase), we hypothesise that:

**H6.** Changes in habits are related to changes in buying behaviour

Finally, to complement H4 and account for the possible direct influence of norms on buying behaviours, which is the path that reduces the influence of contextual factors (Taghikhah et al., 2020), we hypothesise that:

**H7.** The level of activation of norms is related to changes in buying behaviour

### 2.4. Disruptive events and changes in consumption

Consumers' behaviours react to changes in external conditions and life events (Koschate-Fischer, 2018). These factors influencing consumption models and habits are related to personal episodes in a person's life (Lee et al., 2001) and occurrences common to several people or communities, such as economic crises (Kayatz and Gul, 2014; Sharma and Sonwalkar, 2013). Some literature, such as Mathur et al. (2003), referred to them as "transactional events", following Rutter's (1983) theorisation, due to the possibility they trigger other subsequent events. Experiencing such episodes can modify consumption behaviours and habits to adapt to new life or contextual conditions or, according to Mathur et al. (2006), cope with the stress they cause.

The extant literature hypothesises that the COVID-19 pandemic represents one of these events because it caused a profound modification of consumers' behaviours, also considering that changes in consumption are more relevant in response to first-time events than repeated life events (Koschate-Fischer, 2018). The pandemic has changed the quality and quantity of products and services purchased, especially during the lockdown and the most acute phases of the contagion, which represented a turning point in how consumers access their products or services (Segovia et al., 2021). In fact, because of the restrictive measures imposed by governments and the consumers' reactions to cope with this unexpected situation (Pantano et al., 2020), the pandemic exacerbated the change in the retailing sector (Kumar, 2022) that was already started before the coronavirus arrival (Grewal et al., 2021). Thus, the pandemic is a meaningful research setting to understand how these changes occur and to what extent they are permanent.

Not surprisingly, recent studies on the effects of the COVID-19 pandemic provide some first insights into its influence on consumption models (Kirk and Rifkin, 2020). Macro-data at a national level help draw similar conclusions in New Zealand (Hall et al., 2021a), France (Guthrie et al., 2021) and Italy (Coluccia et al., 2021) and confirm the homogeneity of the impacts across regions. At the micro-level, besides grey literature, some academic studies allow the identification and classification of the main consumers' behavioural changes in terms of distribution channel choices (Wang, 2023; Youn et al., 2021), confirming that contextual factors have led to growth in online purchases as a reaction and adaptation to the crisis period (Guthrie et al., 2021). This trend is confirmed for food and non-food products (Beckers et al., 2021). Consumers also moved from distant to neighbourhood stores,

particularly for food products (Güney and Sangün, 2021), but with an increase (compared to the pre-pandemic period) also in the case of non-food products (Beckers et al., 2021).

To interpret consumers' buying behaviour during the pandemic, some studies focus on the drivers of panic buying, highlighting the role of feelings such as anxiety (Omar et al., 2021) or external factors such as government and business interventions (Prentice et al., 2021). Li et al. (2021) confirm that the pandemic can favour irrational consumption, driven by a "distance proximity effect" and perceived risk. As a whole, these empirical findings confirm that the COVID-19 Context subverted consumers' mindsets, attitudes, habits and, as a result, behaviours. In this regard, Sheth (2020) wonders whether changes in consumption during the pandemic are causing mutations in consumers' habits (or vice versa) and whether they will become permanent in future.

Unfortunately, no study has already investigated to what extent the Alphabet theory is suited to explain the causes of these changes in case of such shocking events as retailing disruptions and interpret their temporal validity, which is crucial to understanding and outlining future dynamics that can direct companies toward market strategies that meet consumers' expectations. Considering that some behaviours that emerged during the pandemic seem to continue in the aftermath (Shaw et al., 2022), we integrate the previous hypotheses formulating the following one:

**H8.** Contextual factors during the pandemic are related to changes in habits that persist beyond the shocking phase

All the study hypotheses are shown in Fig. 2. Investigating these relations and comparing the role of the different variables during and after the pandemic makes the contribution of this study to the extant literature threefold. First, it contributes to the debate on how to comprehensively operationalise the Alphabet theory, which helps understand its use cases. Second, it offers empirical evidence of the

expected persistence of contextual factors in shaping habits. Third, it provides sectoral insights into the inner nature of short- and long-term disruptions of buying behaviours in the retail industry. Table 1 provides a synopsis of the theoretical background and the study's novelty.

### 3. Method

#### 3.1. Setting

To test the hypotheses, we conducted a self-reported survey of Italian consumers. Italy can be considered an emblematic case of the COVID-19 outbreak. At the end of February 2020, Italy became Europe's epicentre for the virus's spread. At the beginning of March 2020, the Italian Government introduced one of the most strict lockdowns worldwide, strongly reducing free movement and imposing the shutdown of all non-essential economic activities. In terms of production and distribution, the food industry was considered non-interruptible, but the related retailing activities experienced radical modifications to adapt to new regulatory restrictions and safety guidelines (World Economic Forum, 2020).

Consequently, the changes in societal and consumer needs imposed changes to the retailing activities (Roggeveen and Sethuraman, 2020) that fit the goal of this research. In fact, food production and distribution continued to be guaranteed, but consumers had to adapt their purchasing behaviours and relations with the distribution channel to the circumstances imposed by the pandemic. The resulting modifications of entrenched habits and behaviours represented an unprecedented real-environment experiment involving the entire Italian population, facilitating the sampling phase.

We designed the first part of the questionnaire to gather respondents' socio-demographic information. In the second part, we collected information for the hypothesis testing. To this end, we investigated current

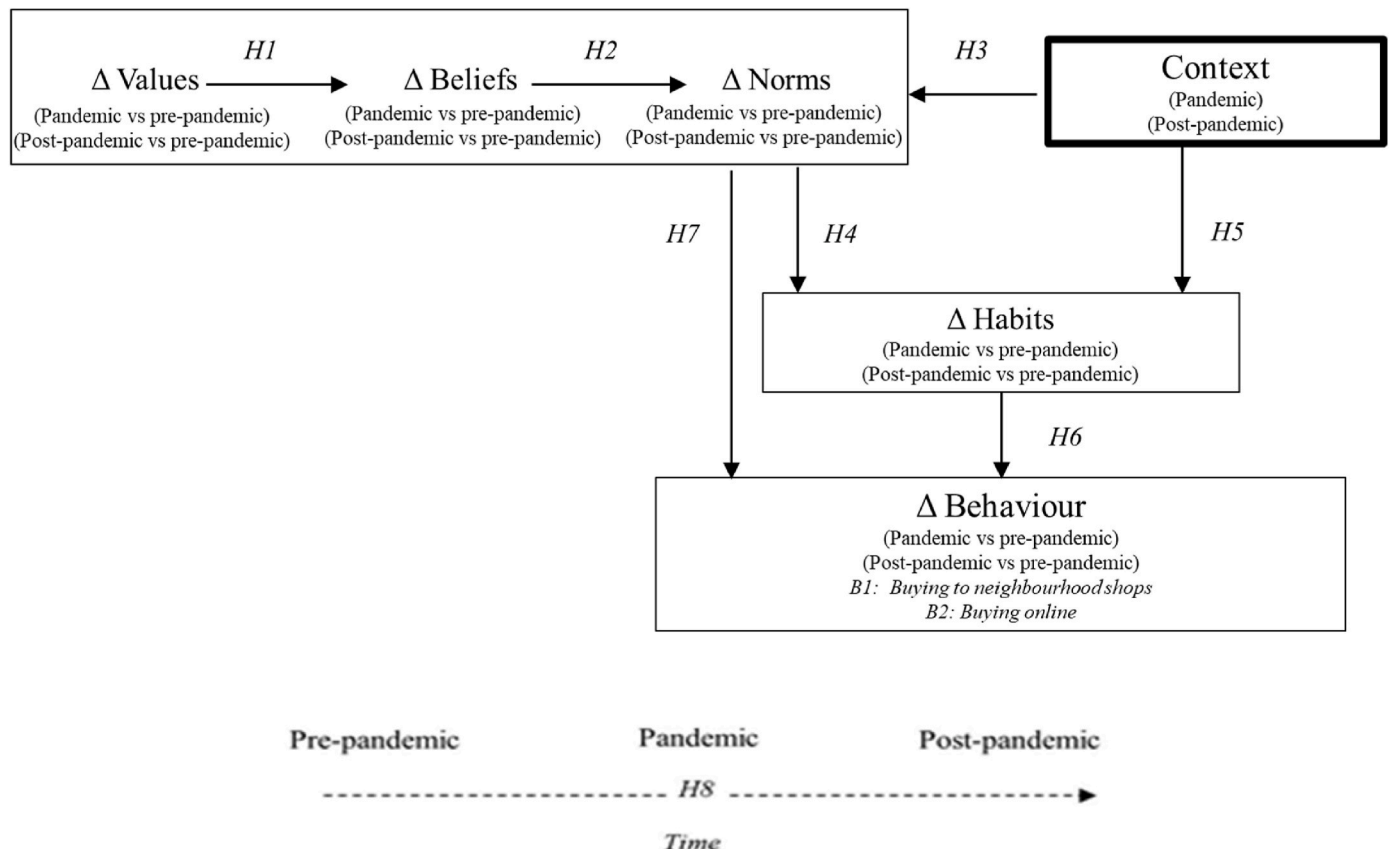


Fig. 2. Study hypotheses.

**Table 1**  
Disruptive events and consumption: theoretical background and main study’s contribution.

Topic	Main references	Approach/contribution of the main references	This paper’s novelty
Internal factors	Schwartz (1977); Dunlap and Van Liere (1978); Schwartz (1992); Stern et al. (1999); Stern (2000); Groening et al. (2018); Chen (2020); Carfora et al. (2021)	Values-Beliefs- Norms (VBN) theory Schwartz’s values theory New Ecological Paradigm (NEP) Norm Activation Model (NAM)	VBN theory is applied to disruptive events The role of VBN variables is empirically tested within the more comprehensive Alphabet Theory framework Values, beliefs and norms are compared during the event and in the aftermath
External factors (Context)	Guagnano et al. (1995); Sirieix et al. (2013); Loebnitz et al. (2015); Chen et al. (2021); Dominici et al. (2021); Rondoni and Grasso (2021)	Attitude-Behaviour-Context (ABC) theory Context as the set of extrinsic facilitators or obstacles that influence consumer’s behaviours	Context as the disruptive event (Covid-19 pandemic) framework The role of Context is empirically tested within the more comprehensive Alphabet Theory framework Context is compared during the event and in the aftermath
Habits	Verplanken et al. (1997); Ji and Wood (2007); Jansson et al., 2010; Kelley et al. (2019); Rivaroli et al. (2020)	Habits are related to what a person is used to doing Habits as one’s personal routine in a specific situation Persistence and repetitiveness of habits	The role of Habits is empirically tested within the more comprehensive Alphabet Theory framework Habits are compared during the event and in the aftermath
Changes in consumption	Rutter (1983); Lee et al. (2001); Mathur et al., (2003); Mathur et al., (2006); Sharma and Sonwalkar (2013); Kaytaz and Gul (2014); Koschate-Fischer (2018); Kirk and Rifkin (2020); Guthrie et al. (2021); Youn et al. (2021); Wang (2023);	Rutter’s “transactional events” Life events influence consumer’s behaviour Focus on the effects risen during the event (not in the aftermath) COVID-19 pandemic as a disruptive event	An empirical assessment of the persistence of the changes in consumption due to the disruptive event
Alphabet Theory	Zepeda and Deal (2009); Feldmann and Hamm (2015); Schäufele and Hamm (2017); Rivaroli et al. (2020); Stampa et al. (2020)	Alphabet Theory is mainly adopted to carry out literature reviews and in conceptual papers	Alphabet Theory is empirically tested in a disruptive event framework Alphabet Theory is empirically applied to investigate current and expected behavioural changes.

and prospective behavioural changes related to neighbourhood shops and online channels. In particular, we asked the respondents to report their behavioural changes related to the pandemic versus the pre-pandemic and their expectations for the post-pandemic versus the pre-pandemic. The survey was administered at the end of 2020 to detect the actual and expected modifications at the peak of the disruptive event, which is helpful to focus on its effects.

3.2. Measures

We developed the questionnaire by adapting measurement models validated in previous studies on consumer behaviour (Table 2).

We collected demographic information concerning age, gender, place of residence, education, household size, and family members with income to stratify the sample and to check for between-group differences.

We measured internal variables (attitudes) of the VBN Theory using Stern’s original sub-dimensions of values, beliefs and norms. We adapted the scale of Leonidou et al. (2013) to measure “egoism” and “altruism” to detect how the pandemic has impacted consumers’ attention and concerns about their own and others’ health and well-being (Rodríguez et al., 2021). Following the NAM Theory (Schwartz, 1977) and the VBN Theory (Stern, 2000), we divided beliefs into “awareness of consequences” and “ascription of responsibility”, two sub-dimensions included in the scale of Schenk (2019). Similarly, we interpreted norms as “moral obligations” and adapted the 2-item scale by Schenk (2019) to measure the sense of duty towards behaviours deemed “right” during the crisis period.

We measured the “pandemic effects” affecting the external environment through two dimensions of Context, namely “perceived risk” and the “importance of security”, which investigate the state of uncertainty and fear for one’s and one’s family’s safety (Kim et al., 2021). We adopted the scale of Klerck and Sweeney (2007), based on the original scale from Stone and Grønhaug (1993), for measuring perceived risk, and the scale of Roehm and Roehm (2011) for measuring the relevance

**Table 2**  
Measurement variables, sub-dimensions, and scales for questionnaire design.

Variables	Sub-dimensions	Labels	Scale adapted from:	Original items	Items in this study
Values	Egoism	Ego	Leonidou et al. (2013)	2	2
	Altruism	Alt	Leonidou et al. (2013)	2	2
Beliefs	Awareness of consequences	AwConseq	Schenk (2019)	3	3
	Ascription of responsibility	AscResp	Schenk (2019)	2	2
Norms	Moral obligation	MorOblig	Schenk (2019)	2	2
Context	Perceived risk	PercRisk	Klerck and Sweeney (2007)	9	3
	Importance of security	ImpSec	Roehm and Roehm (2011)	5	3
Habits	Social interaction (shopping)	SocInter	Noble et al. (2006)	3	3
	Use of internet for information	UseInt	Ko et al. (2005)	3	3
Behaviour	Buying behaviour (Mod_1)	BuyBeh	Schenk (2019)	1	1

of feeling safe and protecting yourself and your loved ones.

We measured relevant habits affected by the pandemic through the intensity of social relationships while shopping and online searching for information. Coherently with the emergence of “lonely customers” and “solo shoppers” (Wang et al., 2021), we adapted the scale of Noble et al. (2006) named “social interaction (shopping)” and the scale “use of the internet for information” of Ko et al. (2005) concerning the risk-reducing effect that information-seeking behaviours (Zhao and

Tsang, 2021) can have in uncertain and stressful situations like the COVID-19 pandemic (Chisty et al., 2021).

Finally, we adapted the one-item scale of Schenk (2019) to compare pre-pandemic and pandemic actual behaviours and the post-pandemic and pre-pandemic purchasing intentions concerning neighbourhood shops and online purchases.

We asked respondents to express their agreement/disagreement with each statement (see Appendix A for details) through a 5-point Likert scale ("1" for "strongly disagree" and "5" for "strongly agree") (Podsakoff et al., 2003).

A pre-test with university students ensured that the text was clear and the survey administration was feasible, particularly concerning the comprehension of the differences between the items adapted to focus on the pre-pandemic vs pandemic and post-pandemic vs pre-pandemic periods for neighbourhood shops and online channels. Based on interviews with these respondents (Fowler, 2013), we avoided emotional terms from the questions' phrasing. We adapted the questionnaire flow to reduce response biases connected to social desirability, question order, leniency and acquiescence. Additionally, assuming that perceptual measures are primarily vulnerable to extreme, middle or random responding (Spector et al., 2019), we adopted ex-ante procedures to account for common method variance (CMV) (Podsakoff et al., 2003; Chang et al., 2010). In detail, we did not make explicit the study's conceptual model and aim. We guaranteed anonymity and confidentiality, emphasising that there are no right or wrong answers, and we included reverse scales and varied some graphical interfaces among questions to mediate between reducing respondents' mental efforts and preventing a lack of concentration.

### 3.3. Data collection and quality check

We gathered data via an online survey designed in Qualtrics. We administered the questionnaire to an interlocking quota sample recruited through a commercial sampling company. Overall, the sample's composition was in line with the socio-demographic characteristics of the Italian population in terms of age, gender, macro-region of residence, household size and education. The questionnaire was administered in November 2020, and a total of 2019 valid and completed replies were gathered. All the respondents were persons in charge of household food shopping, as verified through the first question of the questionnaire. A total of 11% of attempts were not recorded because they were not complete or did not pass the validity check consisting of a question concerning the topic of the previous questions. Concerning the ex-post procedures to conclude that CMB was not a significant threat to the validity of the findings (Podsakoff et al., 2003), besides the extremely very poor fit of Harman's single factor test, which is a necessary yet not sufficient condition to exclude CMV, we added a method factor to the indicators of all model constructs. We thus confirmed that, on the one hand, adding the method factor turned into a worse model fit and, on the other hand, that all its loadings were not significant and the related portion of explained variance was negligible.

## 4. Results and discussion

### 4.1. Sample characteristics

Table 3 presents the sample composition across gender, age, education, macro-region of residence and household size. In total, 54.2 per cent of the respondents were females, 46.1 per cent were aged 54 years plus, 62.4 per cent with higher education. In total, 24.1 of the respondents had a university education at either an undergraduate or postgraduate level. In addition, most of the respondents lived with another (22.8%), two (31.2%) or three (27.6%) family members. Overall, the sample's composition was in line with the socio-demographic characteristics of the Italian population in terms of gender, age, residence, education, and household size.

**Table 3**  
Sample characteristics (frequency and percentage).

Variable	Age		
	18–34	35–54	>54
<b>Gender</b>			
Male	107 (11.6)	363 (39.3)	454 (49.1)
Female	207 (18.9)	411 (37.6)	477 (43.6)
<b>Education</b>			
Primary	16 (5.9)	134 (49.0)	123 (45.1)
Secondary	135 (10.7)	492 (39.0)	633 (50.2)
University	163 (33.5)	148 (30.4)	175 (36.1)
<b>Macro-region</b>			
Central Italy	64 (16.0)	161 (40.2)	175 (43.8)
North-eastern Italy	50 (13.2)	161 (42.6)	167 (44.2)
North-western Italy	84 (15.1)	213 (38.2)	261 (46.8)
Southern Italy	116 (17.0)	239 (35.1)	326 (47.9)
<b>Household size</b>			
1	26 (13.4)	59 (30.4)	109 (56.2)
2	40 (8.7)	139 (30.2)	282 (61.2)
3	103 (16.4)	242 (38.4)	285 (45.2)
4	104 (19.4)	256 (45.9)	194 (34.8)
>4	37 (21.0)	78 (44.3)	61 (34.7)

### 4.2. Descriptive statistics and comparison of measures among scenarios

Descriptive statistics and Analysis of Variance (ANOVA) (Tables 4–8) provide some initial insights into consumers' perceptions of the evolution of buying behaviours during and after the pandemic, which are particularly useful for interpreting the next section's results, especially for H8.

First, VBN's scores reveal that consumers expect a persisting increase in socially responsible purchasing behaviours due to the pandemic. Regarding values (Table 4), as an example, the average increase of altruism in the post-pandemic compared to the pre-pandemic equals 3.68, which is higher than the increase between the pandemic and pre-pandemic, which equals 3.55). This fact might reflect the media coverage concerning the socio-economic crisis that originates from the pandemic, which frequently spreads calls for individual contributions to increase societal resilience. Interestingly, this search for the common good does not seem to conflict with the orientation towards personal and important ones' benefits, reflecting a convergence of interests among the individual and societal perspectives.

These trends are coherent with the increase in the beliefs concerning awareness of the consequences of purchasing decisions and the consumers' ascription of responsibilities towards retailers' survival (Table 5). Interestingly, differences emerge between neighbourhoods and online retailers, with the former attracting more sense of protection than the latter. Yet, curiously, the perceived importance of preserving online retailers through responsible purchasing decisions increases from the pandemic to the new normality scenario, confirming that consumers value the systemic complementarity between products' distribution

**Table 4**  
Values: descriptive statistics.

Items	Effect significance	Pandemic vs pre-pandemic Margin (95% CI)	Post-pandemic vs pre-pandemic Margin (95% CI)
<b>Altruism</b>			
1	F(3,8072) = 13.25**	3.55 (3.51–3.59)	3.68 (3.64–3.73)
2	F(3,8072) = 7.66**	3.51 (3.47–3.55)	3.62 (3.57–3.66)
<b>Egoism</b>			
1	F(3,8072) = 1.29	3.02 (2.97–3.06)	3.06 (3.01–3.11)
2	F(3,8072) = 6.01**	2.83 (2.78–2.88)	2.94 (2.89–2.99)

\*p < 0.05; \*\*p < 0.01.

**Table 5**  
Beliefs: descriptive statistics.

Items	Effect significance	Pandemic vs pre-pandemic		Post-pandemic vs pre-pandemic	
		Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)	Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)
<b>Awareness of consequences</b>					
1	F(3,8072) = 357.40**	3.89 (3.85–3.93)	3.17 (3.13–3.21)	3.91 (3.87–3.95)	3.24 (3.19–3.28)
2	F(3,8072) = 387.19**	3.97 (3.93–4.01)	3.24 (3.20–3.28)	3.96 (3.92–4.00)	3.27 (3.23–3.31)
3	F(3,8072) = 363.74**	4.01 (3.97–4.05)	3.30 (3.25–3.34)	3.97 (3.93–4.01)	3.30 (3.26–3.34)
<b>Ascription of responsibility</b>					
1	F(3,8072) = 389.19**	3.70 (3.66–3.75)	2.94 (2.90–2.99)	3.76 (3.72–3.80)	3.05 (3.01–3.09)
2	F(3,8072) = 397.07**	3.81 (3.77–3.85)	3.04 (3.00–3.09)	3.82 (3.79–3.86)	3.10 (3.05–3.14)

\*p < 0.05; \*\*p < 0.01.

**Table 6**  
Norms: descriptive statistics.

Items	Effect significance	Pandemic vs pre-pandemic		Post-pandemic vs pre-pandemic	
		Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)	Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)
<b>Moral oblig.</b>					
1	F(3,8072) = 375.87**	3.81 (3.77–3.85)	3.12 (3.08–3.17)	3.80 (3.75–3.84)	3.04 (3.00–3.08)
2	F(3,8072) = 458.17**	3.72 (3.68–3.77)	2.86 (2.82–2.90)	3.74 (3.69–3.78)	2.91 (2.87–2.96)

\*p < 0.05; \*\*p < 0.01.

**Table 7**  
Context and habits: descriptive statistics.

Items	Effect significance	Pandemic vs pre-pandemic Margin (95% CI)	Post-pandemic vs pre-pandemic Margin (95% CI)
<b>Perceived risk</b>			
1	F(3,8072) = 82.10**	3.39 (3.34–3.44)	2.99 (2.94–3.04)
2	F(3,8072) = 69.79**	3.42 (3.38–3.47)	3.06 (3.01–3.11)
3	F(3,8072) = 47.16**	3.48 (3.43–3.53)	3.17 (3.13–3.23)
<b>Importance of security</b>			
1	F(3,8072) = 41.71**	4.20 (4.16–4.23)	3.97 (3.93–4.01)
2	F(3,8072) = 38.16**	4.20 (4.16–4.24)	3.99 (3.95–4.03)
3	F(3,8072) = 26.59**	4.08 (4.04–4.11)	3.90 (3.86–3.94)
<b>Social interaction</b>			
1	F(3,8072) = 4.63**	2.86 (2.81–2.91)	2.96 (2.91–3.01)
2	F(3,8072) = 5.06**	3.20 (3.14–3.25)	3.09 (3.04–3.14)
3	F(3,8072) = 6.42**	3.23 (3.18–3.29)	3.12 (3.07–3.17)
<b>Use of internet</b>			
1	F(3,8072) = 5.12**	3.67 (3.63–3.71)	3.59 (3.55–3.63)
2	F(3,8072) = 8.82**	3.79 (3.75–3.83)	3.68 (3.64–3.72)
3	F(3,8072) = 6.91**	3.80 (3.76–3.84)	3.71 (3.67–3.75)

\*p < 0.05; \*\*p < 0.01.

**Table 8**  
Behaviour: descriptive statistics.

Items	Effect significance	Pandemic vs pre-pandemic		Post-pandemic vs pre-pandemic	
		Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)	Neighbourhood shops Margin (95% CI)	Online Margin (95% CI)
<b>Buying behaviour</b>					
Entire sample	F(3,8072) = 164.5**	3.69 (3.65–3.74)	3.21 (3.16–3.25)	3.72 (3.62–3.76)	3.22 (3.18–3.26)
Age "18–34"	F(3,1252) = 2.9*	3.66 (3.55–3.77)	3.47 (3.36–3.58)	3.65 (3.53–3.76)	3.51 (3.40–3.62)
Age "35–54"	F(3,3092) = 24.2**	3.63 (3.56–3.70)	3.33 (3.26–3.40)	3.65 (3.58–3.72)	3.35 (3.28–3.42)
Age ">55"	F(3,3720) = 187.5**	3.76 (3.70–3.82)	3.01 (2.95–3.08)	3.79 (3.73–3.86)	3.02 (2.96–3.08)

\*p < 0.05; \*\*p < 0.01.

alternatives to pursue individual and collective interests.

These beliefs mirror the norms (Table 6) concerning the moral obligation towards making more concrete actions supporting neighbourhood shops both during and after the pandemic compared to the pre-pandemic. The prevalence of the relational dimension of in-store purchasing over the utilitarian dimension of online shopping

provides a possible explanation for the weaker perception of the increase in moral obligations towards online stores, which might result in a desired and value-generating, yet quite impersonal, service at the local level.

Interesting insights also emerge from the purchasing Context variables (Table 7). In fact, the pandemic generated clear increases in the

perceived risks associated with in-store physical contact and a decreasing but persistent need for personal and important ones' safety.

Similar expectations emerge for the possibility of restoring satisfactory social interactions, which were not possible during the pandemic, in the new normality scenario, which is destined to persist less than the increased use of the internet for searching for information.

Overall, since changes in the Context seem partially reversible, possible changes in purchasing behaviours in the post-pandemic are thus likely to depend on the retention of value-generating experiences that are meritorious regardless of the purchasing Context.

Overall, these results offer a powerful interpretative framework for the stated buying behaviours (Table 8). In fact, during the pandemic, consumers clearly perceived the importance of neighbourhood shops, which was compatible with a less pronounced increase in the use of online shops. Interestingly, these changes seem also destined to last in the new normality scenario and be relatively homogeneous across respondents' age classes. The crisis stemming from the pandemic might have thus persuaded consumers that a resilient retail system consists, both in the short and long run, of closer relations with neighbourhood shops and the integration of some online activities. Even though consumers still prefer in-store -physically relational-purchasing experiences, they have an increasing interest in preserving the complementarity of access to offline and online retail channels.

4.3. Hypotheses testing

Before testing our research hypotheses via a theory-based structural model, we included each construct in a measurement model to conduct a confirmatory factor analysis (CFA) and assess the congeneric properties of the scales. We used the Satorra–Bentler scaled chi-squared test for model goodness of fit versus the saturated model, which is robust to nonnormality (Satorra and Bentler, 1994). Since we measured beliefs and norms concerning different time frames (i.e. pandemic in comparison to pre-pandemic and post-pandemic in comparison to pre-pandemic) and channels (i.e. neighbourhood shops and online), we repeated this procedure for each scenario, which produced consistent results. As an example, in the case of online shopping in the new-normality scenario, the fit of the CFA model was good by conventional standards:  $\chi^2 = 363.88$ ,  $df = 125$ ,  $p < 0.01$ , comparative fit index (CFI) = 0.995; Tucker–Lewis index (TLI) = 0.993, root mean square error of approximation (RMSEA) = 0.022, standardised root mean squared residual (SRMR) = 0.016 (Hu and Bentler, 1999).

We used the average variance extracted (AVE) approach to test the convergent and discriminant validity of the scales (Fornell and Larcker, 1981). All the AVE scores indicated a good convergent validity as they reported that the latent construct explained more than fifty per cent of the overall variance in indicator items. The AVE scores also indicated satisfactory discriminant validity as they were higher than the correlation between that factor and other constructs in the model (Table 9). In addition, Raykov's factor reliability coefficients (RRC) for each scale were all above the recommended threshold suggested in the extant literature (0.7) (Raykov, 1997; Raykov and Marcoulides, 2011).

We tested hypotheses 1–5 and 8 through two structural equation models (SEMs) (Fornell and Larcker, 1981), referring to, respectively, the values-beliefs-norm and Alphabet-theory patterns. Both the

Alphabet theory (full model) and the values-beliefs-norm (nested model) models exhibit a good fit: the CFIs are, respectively, 0.976 and 0.991, the TLIs 0.972 and 0.988, and the RMSEAs 0.041 and 0.038. The  $\chi^2/df$  ratios are 2.43 and 2.88, and the SRMRs equal 0.074 and 0.050. We obtained further support for our model specification by comparing these models with alternatives that exclude relevant variables or add paths that are not supported by theory.

Results of the SEMs confirm that all the relations included in the theory-based conceptual framework are statistically significant and oriented in the expected direction (Table 10), apart from a few exceptions that deserve careful study. Overall, H1-H5 and H8 are supported on the condition that they are framed coherently with the time horizon. In fact, concerning H1, while a higher orientation towards self-interests (ego1) emerges as compatible with increased perceived individual responsibilities towards retailers' resilience both during the lockdown and in the new-normality scenario, selfishness and carelessness (ego2) have an unclear effect on the ascription of responsibilities. In the same way, while being concerned about social welfare (alt2) has positive and statistically significant relations with the ascription of responsibilities in all the scenarios, a more radical view that subordinates the acceptance of buying behaviour to the achievement of others' good does not have clear relations with the perceived responsibilities towards retailers. These findings show that moderate increases in the levels of attention to personal and others' good results in consumers being more responsible towards the resilience of offline and online retailers, who are instead not at focus in cases of more radical orientations toward egoist or altruist behaviours. Interestingly, these differences do not emerge concerning the awareness of the positive consequences that individual purchase decisions might have on retailers, which are always positively related to increases in egoistic or altruistic values. In other words, any diversion from indifference seems to stimulate awareness of the consequences of purchase decisions on retailers.

Concerning H2, our results confirm that high levels of activation of context-specific beliefs always go hand in hand with high levels of activation of context-specific norms, fully supporting the VBN conceptualisation.

Interesting findings also emerge concerning the importance of security and the perceived risks.

The importance of security reflects a highly individual facet of the Context that is generally relevant in shaping moral obligations and habits but with different directions depending on the scenario. In detail, increased attention to general security has a positive but barely significant association with feeling the moral imperative to buy in neighbourhood shops both during the pandemic and in the new-normality scenario. Instead, a more relevant and statistically significant negative association emerges between the importance of security and the moral imperative to buy online both during the pandemic and in the new-normality scenario. These relations support H3 and confirm that when consumers feel that their safety is at risk, they tend to refer to online retail channels and renounce interpersonal relations as a useful alternative to achieve contingent goals, not as a moral imperative.

Furthermore, the commitment to build trusted relations with neighbourhood shops depends on individual values more than on increased attention to security. The resulting habits shed more light on H4 and H5. In fact, an increase in general security alerts clearly mirrors

Table 9  
Factor correlation matrix (online shopping in the new-normality scenario).

Variable	AscrResp	AwConseq	PercRisk	ImpSec	SocInter	UseInt	MorOblig	AVE	RRC
AscrResp	1							0.806	0.893
AwConseq	0.624	1						0.806	0.937
PercRisk	0.288	0.243	1					0.704	0.856
ImpSec	0.074	0.099	0.185	1				0.721	0.885
SocInter	0.125	0.081	0.101	0.036	1			0.900	0.996
UseInt	0.199	0.239	0.170	0.282	0.075	1		0.797	0.928
MorOblig	0.695	0.563	0.377	0.058	0.124	0.214	1	0.793	0.885



**Table 10**  
SEM statistics.

Variable	Pandemic vs pre-pandemic Neighbourhood Shops	Pandemic vs pre-pandemic Online	Post-pandemic vs pre-pandemic Neighbourhood Shops	Post-pandemic vs pre-pandemic Online
N. observations	2019	2019	2019	2019
<b>AscResp</b>				
<b>AwConseq</b>	0.709*** (0.020) <i>0.707*** (0.020)</i>	0.678*** (0.023) <i>0.677*** (0.023)</i>	0.756*** (0.020) <i>0.755*** (0.020)</i>	0.738*** (0.020) <i>0.736*** (0.020)</i>
<b>ego1</b>	-0.012 (0.016) <i>-0.012 (0.016)</i>	0.019 (0.019) <i>0.019 (0.019)</i>	0.022 (0.016) <i>0.022 (0.016)</i>	0.024 (0.020) <i>0.025 (0.020)</i>
<b>ego2</b>	0.052*** (0.015) <i>0.051*** (0.015)</i>	0.091*** (0.018) <i>0.092*** (0.018)</i>	0.020 (0.016) <i>0.020 (0.016)</i>	0.067*** (0.019) <i>0.073*** (0.019)</i>
<b>alt1</b>	0.062*** (0.018) <i>0.064*** (0.018)</i>	-0.000 (0.021) <i>-0.002 (0.021)</i>	0.079*** (0.019) <i>0.081*** (0.019)</i>	0.028 (0.022) <i>0.022 (0.022)</i>
<b>alt2</b>	0.128*** (0.017) <i>0.128*** (0.017)</i>	0.080*** (0.020) <i>0.080*** (0.020)</i>	0.084*** (0.018) <i>0.084*** (0.018)</i>	0.051* (0.021) <i>0.052* (0.021)</i>
<b>AwConseq</b>				
<b>ego1</b>	0.068*** (0.019) <i>0.064*** (0.020)</i>	0.061** (0.019) <i>0.061** (0.021)</i>	0.070*** (0.020) <i>0.065** (0.020)</i>	0.081*** (0.022) <i>0.073** (0.025)</i>
<b>ego2</b>	0.055** (0.018) <i>0.044* (0.019)</i>	0.122*** (0.018) <i>0.120*** (0.020)</i>	0.030 (0.019) <i>0.017 (0.020)</i>	0.155*** (0.021) <i>0.159*** (0.024)</i>
<b>alt1</b>	0.319*** (0.020) <i>0.332*** (0.021)</i>	0.171*** (0.021) <i>0.179*** (0.022)</i>	0.332*** (0.023) <i>0.353*** (0.023)</i>	0.092*** (0.025) <i>0.120*** (0.028)</i>
<b>alt2</b>	0.226*** (0.020) <i>0.220*** (0.021)</i>	0.124*** (0.020) <i>0.114*** (0.022)</i>	0.208*** (0.022) <i>0.198*** (0.022)</i>	0.158*** (0.024) <i>0.129*** (0.027)</i>
<b>MorOblig</b>				
<b>AscResp</b>	0.554*** (0.035) <i>0.567*** (0.035)</i>	0.428*** (0.026) <i>0.505*** (0.029)</i>	0.565*** (0.036) <i>0.580*** (0.037)</i>	0.477*** (0.028) <i>0.605*** (0.031)</i>
<b>AwConseq</b>	0.408*** (0.039) <i>0.384*** (0.039)</i>	0.535*** (0.036) <i>0.505*** (0.038)</i>	0.398*** (0.041) <i>0.366*** (0.042)</i>	0.479*** (0.036) <i>0.288*** (0.039)</i>
<b>PercRisk</b>	-0.009 (0.022)	0.341*** (0.031)	0.027* (0.014)	0.250*** (0.017)
<b>ImpSec</b>	0.036* (0.023)	-0.215*** (0.029)	0.012 (0.018)	-0.151*** (0.020)
<b>SocInter</b>				
<b>MorOblig</b>	0.552*** (0.028)	0.798*** (0.041)	0.582*** (0.028)	0.815*** (0.040)
<b>PercRisk</b>	0.233*** (0.046)	-0.180** (0.052)	0.307*** (0.031)	-0.019 (0.034)
<b>ImpSec</b>	-0.211*** (0.048)	0.148** (0.047)]	-0.114** (0.039)	0.149*** (0.038)
<b>UseInt</b>				
<b>MorOblig</b>	0.203*** (0.017)	0.296*** (0.024)	0.222*** (0.016)	0.301*** (0.023)
<b>PercRisk</b>	0.173*** (0.032)	-0.034 (0.033)	0.183*** (0.021)	-0.009 (0.021)
<b>ImpSec</b>	0.402** (0.033)	0.545*** (0.031)	0.367*** (0.027)	0.481*** (0.025)

\*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05.

Note: standard errors in parentheses; Alphabet theory model in regular font, Values-beliefs-norms model in italic font.

an increased need for retrieving widely-accessible online information and avoiding in-store contact with other people. Consequently, in times of perceived generalised unsafety, consumers are in front of a clear trade-off between the need to reduce unnecessary physical interactions and avoid the depersonalisation of retailing. Moral obligations contrast the importance of security in avoiding in-store physical interactions. Instead, the importance of security outperforms moral obligations in developing new habits consisting of more intensive use of the internet as an information source.

Concerning H6 and H7, when increases in the perceived safety alerts specifically refer to in-store shopping experiences and, thus, represent a barrier to in-store-specific behaviours, changing in-store habits comes at high perceived costs related to missed socialisation and with a weaker switch towards the search for online information when compared to a general increase in attention to security. In this case, consumers deal with this situational pressure through a significantly stronger commitment to online purchasing, which thus represents a non-painless alternative to neighbourhood shops. Additionally, it is worth noting that the

**Table 11**  
Ordered logistic regression statistics.

Variable	Pandemic vs pre-pandemic Neighbourhood Shops		Pandemic vs pre-pandemic Online		Post-pandemic vs pre-pandemic Neighbourhood Shops		Post-pandemic vs pre-pandemic Online	
	Coef.	Odds Ratio	Coef.	Odds Ratio	Coef.	Odds Ratio	Coef.	Odds Ratio
<b>BuyBeh</b>								
<b>MorOblig</b>	1.578***(0.073)	4.844*** (0.354)	1.898*** (0.076)	6.667*** (0.501)	2.854*** (0.099)	17.359*** (1.717)	2.126*** (0.084)	8.384*** (0.704)
<b>SocInter</b>	0.081*(0.040)	1.085*(0.043)	-0.090*(0.040)	0.914*(0.036)	0.067(0.044)	1.070(0.047)	-0.059(0.043)	0.942(0.041)
<b>UseInt</b>	0.308*** (0.062)	1.361*** (0.085)	0.602*** (0.064)	1.824*** (0.118)	0.215** (0.069)	1.240** (0.085)	0.928*** (0.074)	2.529*** (0.186)
N. observations	2019		2019		2019		2019	
<b>Prob &gt; chi2</b>	***		***		***		***	
<b>Pseudo R2</b>	0.141		0.190		0.288		0.278	

\*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05.

Note: standard errors in parentheses.

effects of moral obligations on habits tend to outperform those of the perceived risks, revealing that building a mutualistic pact between consumers and retailers might be more effective than taking actions to reduce the perceived in-store risks.

We further tested hypotheses 6 and 7 by means of separate ordered logistic regressions per each scenario. We first tested the assumption concerning the odds constancy of effects across categories by performing a Brant likelihood-ratio test of proportionality of odds across response categories (Scott Long and Freese, 2014). Additionally, we compared the ordered logistic regression statistics with those from generalised ordered logit models (Williams, 2016) that release the parallel-lines assumption to confirm the robustness of the results.

The coefficients and odds ratios, together with their significance levels (Table 11), confirm that moral obligation is by far the variable that is more associated with increases in buying behaviours, both in neighbourhood shops and online.

Interestingly, increases in feeling the moral imperative to buy from these retail channels reflect the highest increases in the odds of performing coherent behaviours, especially in the new normality scenario. The impacts of the pandemic on consumers' behaviours are thus destined to last, especially when they produce modifications at the individual level throughout the values-beliefs-norms path. From this perspective, there is conditional support for H8 in that the modifications of habits concerning in-store social interactions had only marginal effects during the pandemic, which seem destined to disappear over time. Long-lasting effects of modifications in habits refer only to the increased use of the internet as a source of information, which during the pandemic has been boosted and consolidated into routines that will not be dismantled in the new-normality scenario.

Overall, our results support the hypothesised relations and, thus, confirm the ability of the Alphabet theory to represent the effects of Context and habits on consumer behaviour. In so doing, however, they also show that the relative relevance of the hypothesised paths varies among the investigated scenarios, which calls for further studies to search for regularities among these between-scenarios differences.

From a theoretical perspective, these findings also reveal that the Alphabet theory adds to the values-beliefs-norms theory only an ancillary explanatory power for buying behaviour. Given the higher complexity of data collection, it is thus advisable to model buying behaviours through alphabet lenses only when they reasonably depend on context-specific habits.

## 5. Conclusions

The paper addresses two relevant issues relating to consumer behaviour and its modification in response to disruptive events, namely the possibility of explaining the modification dynamics during the event and identifying the persisting effects in the aftermath. To this end, it provides one of the first operationalisations of the Alphabet theory, offering insights into its ergonomics and suitability for studies concerning retail markets.

Besides some limitations, the study offers relevant theoretical and managerial implications.

### 5.1. Theoretical implications

The original theoretical contribution of the study is threefold.

To the best of our knowledge, the paper is the first attempt to empirically model the determinants of the short and long-term impacts of the changes on consumption occurring because of disruptive events such as the pandemic. To this end, it provides one of the first operationalisations of the Alphabet theory. Our results prove that some of the antecedents of consumers' changes in channel preference during the pandemic, namely the increase in the frequency of online purchases and purchases at neighbourhood stores compared to pre-pandemic periods, are perceived as enduring also in the post-pandemic scenario. This fact

reveals a double role of Context. First, it directly influences habits and attitudinal variables during the event. Second, even when contextual factors fade, a memory effect emerges via persisting shopping behaviours, habits (such as the use of the internet for searching for information) and attitudes. In particular, our results show that contextual factors act as change-makers that introduce modifications destined to last as long as they increase the resilience of the retail environment.

This study also offers one of the first quantitative comparisons between the Alphabet theory's blocks of behavioural antecedents. Since its theorisation, this theory emerged as a unifying framework in conceptual papers aimed at overviewing multifaceted drivers of consumer behaviour toward specific product categories, especially food. Our application in retailing confirms the validity of the hypothesised relations and their ability to grasp intertemporal and between-channels behavioural differences. Besides that, they reveal the key role of the interplay of values, beliefs and norms in explaining persisting responsible behaviours and how they are impacted - especially in the short run - by contextual safety issues. Moreover, the results highlight the different persistence of the consequences in the online shift of purchasing and information-seeking habits, with the competence-building nature of the latter justifying their higher irreversibility. As such, consumers' values, beliefs and norms confirm their leading role in influencing shopping behaviours and responding to disruptive events, both directly and by modifying habits. Moreover, our results have theoretical implications for the operationalisation of the model variables. Habits are relevant to explaining how interactions with others during shopping and the greater use of the internet relate to the modification of behaviour. Still, they lose their relevance when they refer to future and more uncertain scenarios (i.e. shopping-related habits). The persistent influence of habits under the consumers' control (i.e. information search) suggests that minimising uncertainties might be a valid selection criterion for relevant habits' measures. Similarly, the prevalence of altruistic motivations compared to selfish ones is coherent with the perceived influence of Context and habits both in the short- and long-term scenarios, which confirms the importance of logical coherence as a second driving criterion in selecting the theory-based measurement models. Thus, as a whole, our results suggest under what conditions the Alphabet Theory can represent today one of the most comprehensive frameworks that guide researchers in distilling meaningful relations from the extant theory to explain the drivers of responsible purchasing behaviours.

Finally, although this study confirms that Alphabet Theory is a valid and suitable framework for explaining multifaceted features of shopping behaviour, our findings show that VBN theory is still a solid and ergonomic alternative to model the prevailing determinants of the distribution channel switching behaviour during and after the pandemic. Psychographic characteristics and individual attributes (values-beliefs-norms) are easy to collect. They have significant relations with buying behaviour, which makes habits and Context useful to add granularity to the VBN theory only when required by the study's aim. In other words, the Alphabet Theory is a data-demanding framework whose adoption is recommended to compare the effects of alternative contexts on the same community of consumers more than to investigate the behavioural determinants of different communities of consumers in the same Context.

### 5.2. Managerial implications

The empirical research findings have implications for both manufacturers, in terms of decisions about the distribution channels, and retailers, regarding new competitive dynamics among channels during disruptive events and in the aftermath.

Manufacturers should realise that, on the one hand, consumers are progressively familiarising themselves with online retail channels also in the grocery sector, and, on the other hand, they are not willing to renounce them as an alternative to traditional channels in the future, even when traditional channels represent their first choice. E-grocery was embryonic in countries such as Italy before the pandemic. Social

distancing and travel restrictions have boosted its diffusion, which, according to our results, does not seem to hold back even in the future. What is more, it seems that the contingent development of digital competencies supports this trend. In fact, consumers are more and more dependent on online sources for the collection of shopping-related information. Our investigation shows that when contextual factors force consumers to develop new competencies to adapt their habits and behaviours, consequences last even though contextual factors vanish. This resonates with the results from other studies, e.g. [Bender et al. \(2022\)](#), confirming that competence-building dynamics induced by market shocks tend to improve system resilience.

Besides that, retailers should consider that modern formats such as supermarkets and hypermarkets experienced degrowth during the pandemic, often favouring neighbourhood shops, towards which consumers have developed an emotional dimension such as a sense of protection (moral obligation). Since this behavioural change seems destined to last, leading manufacturers should also rethink their presence in modern proximity shops that combine offline relations with online pragmatism.

Interestingly, this study suggests that consumers have developed an inclination toward neighbourhood shops mainly based on values and ethical considerations stimulated by the contingent event, especially for those with moderate values profiles. To sustain the behavioural change and reduce the volatility of consumers' values that new events might cause, producers and retailers should integrate their communication with emotional messages that recall the origins of consumers' behavioural change. To this end, retailers, especially neighbourhood ones, should better leverage what determined moral obligations towards them than invest in a safety-based image, which is an effective lever only in the short run. Retailers' strategies should thus adapt to the specific stage of consumers' elaboration of the critical event.

### 5.3. Limitations and further research

This paper has some limitations that can be addressed in future

## Appendix A

Variables	Sub-dimensions (original scale)	Items	
		Pandemic vs pre-pandemic	Post-pandemic vs pre-pandemic
Values	<i>Egoism</i> ( <a href="#">Leonidou et al., 2013</a> ) <i>Altruism</i> ( <a href="#">Leonidou et al., 2013</a> )	ego1: I thought more frequently that individuals should focus solely on the consequences to themselves when making buying evaluations	ego1: I will think more frequently that individuals should focus solely on the consequences to themselves when making buying evaluations
		ego2: I thought more frequently that people's activities should be followed by selfness, when making buying evaluations alt1: I thought more frequently that a buying choice is right if it leads to the greatest good for the greatest number of people alt2: I thought more frequently that people should be concerned about maximizing social welfare rather than personal interests when making buying evaluations	ego2: I will think more frequently that people's activities should be followed by selfness, when making buying evaluations alt1: I will think more frequently that a buying choice is right if it leads to the greatest good for the greatest number of people alt2: I will think more frequently that people should be concerned about maximizing social welfare rather than personal interests when making buying evaluations
Beliefs	<i>Awareness of consequences</i> ( <a href="#">Schenk, 2019</a> )  <i>Ascription of responsibility</i> ( <a href="#">Schenk, 2019</a> )	<b>Neighbourhood shops</b> awconseq1: I became more aware that, by purchasing from neighbourhood shops, I can help the local economy awconseq2: I became more aware that purchasing from neighbourhood shops supports local retailers awconseq3: I became more aware that purchasing from neighbourhood shops contributes to the survival of local retailers	<b>Neighbourhood shops</b> awconseq1: I will become more aware that, by purchasing from neighbourhood shops, I can help the local economy awconseq2: I will become more aware that purchasing from neighbourhood shops supports local retailers awconseq3: I will become more aware that purchasing from neighbourhood shops contributes to the survival of local retailers
		<b>Online</b> awconseq1: I became more aware that, by purchasing online, I can help the most dynamic and innovative part of the economy awconseq2: I became more aware that purchasing online can help the most dynamic and innovative companies awconseq3: I became more aware that purchasing online contributes to the survival of the companies more in step with the times <b>Neighbourhood shops</b> ascesp1: I felt more frequently responsible for the survival of local retailers	<b>Online</b> awconseq1: I will become more aware that, by purchasing online, I can help the most dynamic and innovative part of the economy awconseq2: I will become more aware that purchasing online can help the most dynamic and innovative companies awconseq3: I will become more aware that purchasing online contributes to the survival of the companies more in step with the times <b>Neighbourhood shops</b> ascesp1: I will feel more frequently responsible for the survival of local retailers

(continued on next page)

research.

First, the sample is composed only of Italian respondents. This fact can reduce the generalisation of the results due to cultural differences in dealing with the governments' specific restrictive measures and communication strategies, which might generate heterogeneity in consumers' attitudes, perceptions, and behaviours. Futures replications of our study are thus recommended in different contexts to gain further insights into the relations between the different blocks of the Alphabet theory.

Second, according to Alphabet theory, our perceptual measures are naturally suited to grasp the relations that explain current and future behaviour. Despite that, when included in a cross-sectional study, they have a limited ability to predict to what extent they will be invariant to other events and, thus, actually turn into the predicted behaviour. Starting from our results, future longitudinal studies are needed to gain more insights into how to operationalise the Alphabet theory measures to predict future behaviours better.

Third, our results confirm the Alphabet theory's ability to represent the effects of Context and habits on consumer behaviour. Despite that, the differences in the relevance of its paths among the different scenarios should be further investigated to develop a more precise understanding of the conditions that determine the relative relevance of the investigated predictors of consumer behaviour.

Finally, our conceptualisation and operationalisation of Context and habits may have impacted the model results. Due to the possibility of interpreting these two macro-variables broadly, any attempt to choose their most significant sub-dimensions can appear subject to possible integrations. Future research can explore the possibility of integrating our measures by adopting other compelling sub-dimensions in assessing Context and habits during a crisis.

### Data availability

Data will be made available on request.

(continued)

Variables	Sub-dimensions (original scale)	Items	
		Pandemic vs pre-pandemic	Post-pandemic vs pre-pandemic
Personal Norms	<i>Moral obligation</i> (Schenk, 2019)	ascresp2: I thought more frequently that all people, including me, are responsible for the survival of local retailers <b>Online</b> ascresp1: I felt more frequently responsible for the survival of online retailers	ascresp2: I will think more frequently that all people, including me, are responsible for the survival of local retailers <b>Online</b> ascresp1: I will feel more frequently responsible for the survival of online retailers
		ascresp2: I thought more frequently that all people, including me, are responsible for the survival of online retailers <b>Neighbourhood shops</b> moroblig1: I thought more frequently that purchasing from neighbourhood shops would be the wisest choice moroblig2: I felt more frequently obliged to buy from neighbourhood shops <b>Online</b> moroblig1: I thought more frequently that purchasing online would be the wisest choice moroblig2: I felt more frequently obliged to buy online	ascresp2: I will think more frequently that all people, including me, are responsible for the survival of online retailers <b>Neighbourhood shops</b> moroblig1: I will think more frequently that purchasing from neighbourhood shops would be the wisest choice moroblig2: I will feel more frequently obliged to buy from neighbourhood shops <b>Online</b> moroblig1: I will think more frequently that purchasing online would be the wisest choice moroblig2: I will feel more frequently obliged to buy online
Context	<i>Perceived risk</i> (Klerck and Sweeney, 2007)	percrisk1: The thought of purchasing at a shop and coming in contact with other persons made me feel psychologically uncomfortable percrisk2: When I needed to buy something, I became more concerned about the potential risks in thinking about entering a shop with other persons percrisk3: When I needed to buy something, I was worried about entering a shop with other persons	percrisk1: The thought of purchasing at a shop and coming in contact with other persons will make me feel psychologically uncomfortable percrisk2: When I will need to buy something, I will become more concerned about the potential risks in thinking about entering a shop with other persons percrisk3: When I will need to buy something, I will worry about entering a shop with other persons
	<i>Importance of security</i> (Roehm and Roehm, 2011)	impsec1: The pandemic has led to greater attention to security impsec2: The pandemic has increased the importance of protecting myself and my family impsec3: The pandemic has shifted attention to security	impsec1: The post-emergency will lead to greater attention to safety impsec2: The post-emergency will increase the importance of protecting myself and my family impsec3: The post-emergency will shift attention to security
Habits	<i>Social interaction - shopping</i> (Noble et al., 2006)	socinter1: I missed watching other people when I went shopping socinter2: I missed interacting with others when I went shopping socinter3: I missed the experience of interacting with people when I went shopping	socinter1: I will miss watching other people when I will go shopping. socinter2: I will miss interacting with others when I will go shopping. socinter3: I will miss the experience of interacting with people when I will go shopping.
	<i>Use of internet for information</i> (Ko et al., 2005)	useint1: I used the internet more frequently to learn about unknown things useint2: I appreciated the internet more as a way to do research useint3: I used the internet more frequently to learn about useful things	useint1: I will use the internet more frequently to learn about unknown things useint2: I will appreciate the internet more as a way to do research useint3: I will use the internet more frequently to learn about useful things
Behaviour	<i>Buying behaviour Intention to buy</i> (Schenk, 2019)	<b>Neighbourhood shops</b> buybeh1: I bought more frequently in neighbourhood shops <b>Online</b> buybeh1: I bought more frequently online	<b>Neighbourhood shops</b> intbuy1: I will buy more frequently in neighbourhood shops <b>Online</b> intbuy1: I will buy more frequently online

References

Abdelnour, A., Devignes, J., Randery, T., Rogers, J., 2020. COVID-19 Crisis: How Distributors Can Emerge Stronger than before. Available online at. McKinsey & Company Article. <https://www.mckinsey.com/industries/advanced-electronics/our-insights/covid-19-crisis-how-distributors-can-emerge-stronger-than-before>.

Beckers, J., Weekx, S., Beutels, P., Verhetsel, A., 2021. COVID-19 and retail: the catalyst for e-commerce in Belgium? J. Retailing Consum. Serv. 62, 102645 <https://doi.org/10.1016/j.jretconser.2021.102645>.

Belk, R.W., 1975. Situational variables and consumer behavior. J. Consum. Res. 2 (3), 157–164. <https://doi.org/10.1086/208627>.

Bender, K.E., Badiger, A., Roe, B.E., Shu, Y., Qi, D., 2022. Consumer behavior during the COVID-19 pandemic: an analysis of food purchasing and management behaviors in US households through the lens of food system resilience. Soc. Econ. Plann. Sci. 82, 101107 <https://doi.org/10.1016/j.seps.2021.101107>.

Biel, A., Thøgersen, J., 2007. Activation of social norms in social dilemmas: a review of the evidence and reflections on the implications for environmental behaviour. J. Econ. Psychol. 28, 93–112. <https://doi.org/10.1016/j.joep.2006.03.003>.

Carfora, V., Cavallo, C., Catellani, P., Del Giudice, T., Cicia, G., 2021. Why do consumers intend to purchase natural food? Integrating theory of planned behavior, value-belief-norm theory, and trust. Nutrients 13 (6), 1904. <https://doi.org/10.3390/nu13061904>.

Ceylan, R.F., Ozkan, B., Mulazimgogullari, E., 2020. Historical evidence for economic effects of COVID-19. Eur. J. Health Econ. 21 (6), 817–823. <https://doi.org/10.1007/s10198-020-01206-8>.

Chang, S.-J., Van Witteloostuijn, A., Eden, L., 2010. From the editors: common method variance in international business research. J. Int. Bus. Stud. 41 (2), 178–184. <https://doi.org/10.1057/jibs.2009.88>.

Chen, M.F., 2020. Selecting environmental psychology theories to predict people's consumption intention of locally produced organic foods. Int. J. Consum. Stud. 44 (5), 455–468. <https://doi.org/10.1111/ijcs.12578>.

Chen, X., Kassar, B., Gao, Z., 2021. Impulsive purchasing in grocery shopping: do the shopping companions matter? J. Retailing Consum. Serv. 60, 102495 <https://doi.org/10.1016/j.jretconser.2021.102495>.

Chisty, M.A., Islam, M.A., Munia, A.T., Rahman, M.M., Rahman, N.N., Mohima, M., 2021. Risk perception and information-seeking behavior during emergency: an exploratory study on COVID-19 pandemic in Bangladesh. Int. J. Disaster Risk Reduc. 65, 102580 <https://doi.org/10.1016/j.ijdrr.2021.102580>.

Coluccia, B., Agnudei, G.P., Miglietta, P.P., De Leo, F., 2021. Effects of COVID-19 on the Italian agri-food supply and value chains. Food Control 123, 107839. <https://doi.org/10.1016/j.foodcont.2020.107839>.

Dominici, A., Boncinelli, F., Gerini, F., Marone, E., 2021. Determinants of online food purchasing: the impact of socio-demographic and situational factors. J. Retailing Consum. Serv. 60, 102473 <https://doi.org/10.1016/j.jretconser.2021.102473>.

Dunlap, R.E., Van Liere, K.D., 1978. The new environmental paradigm: a proposed measuring instrument and preliminary results. J. Environ. Educ. 9 (4), 10–19. <https://doi.org/10.1080/00958964.1978.10801875>.

Feldmann, C., Hamm, U., 2015. Consumers' perceptions and preferences for local food: a review. Food Qual. Prefer. 40, 152–164. <https://doi.org/10.1016/j.foodqual.2014.09.014>.

Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. J. Mark. Res. 18 (1), 39–50. <https://doi.org/10.1177/002224378101800104>.

Fowler Jr., F.J., 2013. Survey Research Methods. Sage, Thousand Oaks, CA.

Grewal, D., Gauri, D.K., Roggeveen, A.L., Sethuraman, R., 2021. Strategizing retailing in the new technology era. J. Retailing 97 (1), 6–12. <https://doi.org/10.1016/j.jretai.2021.02.004>.

Groening, C., Sarkis, J., Zhu, Q., 2018. Green marketing consumer-level theory review: a compendium of applied theories and further research directions. J. Clean. Prod. 172, 1848–1866. <https://doi.org/10.1016/j.jclepro.2017.12.002>.

Guagnano, G.A., Stern, P.C., Dietz, T., 1995. Influences on attitude-behavior relationships: a natural experiment with curbside recycling. Environ. Behav. 27 (5), 699–718. <https://doi.org/10.1177/0013916595275005>.

- Güney, O.I., Sangün, L., 2021. How COVID-19 affects individuals' food consumption behaviour: a consumer survey on attitudes and habits in Turkey. *Br. Food J.* 123 (7), 2307–2320. <https://doi.org/10.1108/BFJ-10-2020-0949>.
- Guthrie, C., Fosso-Wamba, S., Arnaud, J.B., 2021. Online consumer resilience during a pandemic: an exploratory study of e-commerce behavior before, during and after a COVID-19 lockdown. *J. Retailing Consum. Serv.* 61, 102570 <https://doi.org/10.1016/j.jretconser.2021.102570>.
- Hall, M.C., Fieger, P., Prayag, G., Dyason, D., 2021a. Panic buying and consumption displacement during COVID-19: Evidence from New Zealand. *Economies* 9 (46). <https://doi.org/10.3390/economies9020046>.
- Hall, M.C., Prayag, G., Fieger, P., Dyason, D., 2021b. Beyond panic buying: consumption displacement and COVID-19. *J. Serv. Manag.* 32 (1), 113–128. <https://doi.org/10.1108/JOSM-05-2020-0151>.
- Hu, L., Bentler, P., 1999. Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model.* 6 (1), 1–55. <https://doi.org/10.1080/10705519909540118>.
- Hwang, J., Kim, W., Kim, J.J., 2020. Application of the value-belief-norm model to environmentally friendly drone food delivery services: the moderating role of product involvement. *Int. J. Contemp. Hosp.* 32 (5), 1775–1794. <https://doi.org/10.1108/IJCHM-08-2019-0710>.
- Jansson, J., Marell, A., Nordlund, A., 2010. Green consumer behavior: determinants of car use and eco-innovation adoption. *J. Consum. Mark.* 27 (4), 358–370. <https://doi.org/10.1108/07363761011052396>.
- Ji, M.F., Wood, W., 2007. Purchase and consumption habits: not necessarily what you intend. *J. Consum. Psychol.* 17 (4), 261–276. [https://doi.org/10.1016/S1057-7408\(07\)70037-2](https://doi.org/10.1016/S1057-7408(07)70037-2).
- Kaytak, M., Gul, M.C., 2014. Consumer response to economic crisis and lessons for marketers: the Turkish experience. *J. Bus. Res.* 67 (1), 2701–2706. <https://doi.org/10.1016/j.jbusres.2013.03.019>.
- Kelley, K., Bruwer, J., Zelinskie, J., Gardner, D., Govindasamy, R., Hyde, J., Rickard, B., 2019. Wine consumers' willingness to adopt environmentally friendly packaging practices at tasting rooms: an ECHAID analysis. *Br. Food J.* 122 (1), 309–327. <https://doi.org/10.1108/BFJ-04-2019-0229>.
- Kim, J., Yang, K., Min, J., White, B., 2021. Hope, fear, and consumer behavioral change amid COVID-19: application of protection motivation theory. *Int. J. Consum. Stud.* 46, 558–574. <https://doi.org/10.1111/ijcs.12700>.
- Kirk, C.P., Rifkin, L.S., 2020. I'll trade you diamonds for toilet paper: consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *J. Bus. Res.* 117, 124–131. <https://doi.org/10.1016/j.jbusres.2020.05.028>.
- Klerck, D., Sweeney, J.C., 2007. The effect of knowledge types on consumer-perceived risk and adoption of genetically modified foods. *Psychol. Market.* 24 (2), 171–193. <https://doi.org/10.1002/mar.20157>.
- Ko, H., Cho, C.H., Roberts, M.S., 2005. Internet uses and gratifications: a structural equation model of interactive advertising. *J. Advert.* 34 (2), 57–70. <https://doi.org/10.1080/0091336705.10639191>.
- Kohli, S., Timelin, B., Fabius, V., Veranen, S.M., 2020. How COVID-19 is changing consumer behavior now and forever. McKinsey & Company. Available online at. <https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our%20Insights/How%20COVID%2019%20is%20changing%20consumer%20behavior%20now%20and%20forever/How-COVID-19-is-changing-consumer-behavior-now-and-forever.pdf>.
- Koschate-Fischer, N., Hoyer, W.D., Stokburger-Sauer, N.E., Engling, J., 2018. Do life events always lead to change in purchase? The mediating role of change in consumer innovativeness, the variety seeking tendency, and price consciousness. *J. Acad. Market. Sci.* 46 (3), 516–536. <https://doi.org/10.1007/s11747-017-0548-3>.
- Kumar, A., 2022. Modelling retail inventory pricing policies under service level and promotional efforts during COVID-19. *J. Clean. Prod.* 381, 134784 <https://doi.org/10.1016/j.jclepro.2022.134784>.
- Laato, S., Islam, A.N., Farooq, A., Dhir, A., 2020. Unusual purchasing behavior during the early stages of the COVID-19 pandemic: the stimulus-organism-response approach. *J. Retailing Consum. Serv.* 57, 102224 <https://doi.org/10.1016/j.jretconser.2020.102224>.
- Lee, E., Moschis, G.P., Mathur, A., 2001. A study of life events and changes in patronage preferences. *J. Bus. Res.* 54 (1), 25–38. [https://doi.org/10.1016/S0148-2963\(00\)00116-8](https://doi.org/10.1016/S0148-2963(00)00116-8).
- Leonidou, L.C., Leonidou, C.N., Kvasova, O., 2013. Cultural drivers and trust outcomes of consumer perceptions of organizational unethical marketing behavior. *Eur. J. Market.* 47 (3/4), 525–556. <https://doi.org/10.1108/03090561311297445>.
- Li, S., Zhang, Z., Liu, Y., Ng, S., 2021. The closer I am, the safer I feel: the “distance proximity effect” of COVID-19 pandemic on individuals' risk assessment and irrational consumption. *Psychol. Market.* 38 (11), 2006–2018. <https://doi.org/10.1002/mar.21552>.
- Loebnitz, N., Loose, S.M., Grunert, K.G., 2015. Impacts of situational factors on process attribute uses for food purchases. *Food Qual. Prefer.* 44, 84–91. <https://doi.org/10.1016/j.foodqual.2015.03.014>.
- Martin-Neuning, R., Ruby, M.B., 2020. What does food retail research tell us about the implications of coronavirus (COVID-19) for grocery purchasing habits? *Front. Psychol.* 11, 1448. <https://doi.org/10.3389/fpsyg.2020.01448>.
- Mathur, A., Moschis, G.P., Lee, E., 2003. Life events and brand preference changes. *J. Consum. Behav.* 3 (2), 129–141. <https://doi.org/10.1002/cb.128>.
- Mathur, A., Moschis, G.P., Lee, E., 2006. Consumer stress-handling strategies: theory and research findings. *J. Consum. Behav.* 5 (3), 193–203. <https://doi.org/10.1002/cb.171>.
- Noble, S.M., Griffith, D.A., Adjei, M.T., 2006. Drivers of local merchant loyalty: understanding the influence of gender and shopping motives. *J. Retailing* 82 (3), 177–188. <https://doi.org/10.1016/j.jretai.2006.05.002>.
- Omar, N.A., Nazri, M.A., Ali, M.H., Alam, S.S., 2021. The panic buying behavior of consumers during the COVID-19 pandemic: examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety. *J. Retailing Consum. Serv.* 62, 102600 <https://doi.org/10.1016/j.jretconser.2021.102600>.
- Pantano, E., Pizzi, G., Scarpi, D., Dennis, C., 2020. Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. *J. Bus. Res.* 116, 209–213. <https://doi.org/10.1016/j.jbusres.2020.05.036>.
- Park, C.W., Iyer, E.S., Smith, D.C., 1989. The effects of situational factors on in-store grocery shopping behavior: the role of store environment and time available for shopping. *J. Consum. Res.* 15 (4), 422–433. <https://doi.org/10.1086/209182>.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., Podsakoff, N.P., 2003. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88 (5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>.
- Pop, R.A., Hlédik, E., Dabija, D.C., 2023. Predicting consumers' purchase intention through fast fashion mobile apps: the mediating role of attitude and the moderating role of COVID-19. *Technol. Forecast. Soc. Change* 186, 122111. <https://doi.org/10.1016/j.techfore.2022.122111>.
- Prentice, C., Nguyen, M., Nandy, P., Winardi, M.A., Chen, Y., Le Monkhouse, L., Dominique-Ferreira, S., Stantic, B., 2021. Relevant, or irrelevant, external factors in panic buying. *J. Retailing Consum. Serv.* 61, 102587 <https://doi.org/10.1016/j.jretconser.2021.102587>.
- Raykov, T., 1997. Estimation of composite reliability for congeneric measures. *Appl. Psychol. Meas.* 21, 173–184. <https://doi.org/10.1177/01466216970212006>.
- Raykov, T., Marcoulides, G.A., 2011. Introduction to Psychometric Theory. Routledge/Taylor & Francis Group, New York, NY, US.
- Rivaroli, S., Baldi, B., Spadoni, R., 2020. Consumers' perception of food product craftsmanship: a review of evidence. *Food Qual. Prefer.* 79, 103796 <https://doi.org/10.1016/j.foodqual.2019.103796>.
- Rodríguez, M., Pérez, L.M., Alonso, M., 2021. The impact of egoistic and social-altruistic values on consumers' intention to stay at safe hotels in the COVID-19 era: a study in Spain. *Curr. Issues Tourism* 1–8. <https://doi.org/10.1080/13683500.2021.2008881>.
- Roehm, M.L., Roehm, H.A., 2011. The influence of redemption time frame on responses to incentives. *Acad. Market. Sci. Rev.* 39 (3), 363–375. <https://doi.org/10.1007/s11747-010-0201-x>.
- Roggeveen, A.L., Sethuraman, R., 2020. How the COVID-19 pandemic may change the world of retailing. *J. Retailing* 96 (2), 169–171. <https://doi.org/10.1016/j.jretai.2020.04.002>.
- Rondoni, A., Grasso, S., 2021. Consumers behaviour towards carbon footprint labels on food: a review of the literature and discussion of industry implications. *J. Clean. Prod.* 127031 <https://doi.org/10.1016/j.jclepro.2021.127031>.
- Rutter, M., 1983. Stress, coping, and development: some issues and some questions. In: Garnezy, N., Rutter, M. (Eds.), *Stress, Coping, and Development in Children*. McGraw-Hill, New York, NY, pp. 25–44.
- Sarmento, M., Marques, S., Galan-Ladero, M., 2019. Consumption dynamics during recession and recovery: a learning journey. *J. Retailing Consum. Serv.* 50, 226–234. <https://doi.org/10.1016/j.jretconser.2019.04.021>.
- Satorra, A., Bentler, P.M., 1994. Corrections to test statistics and standard errors in covariance structure analysis. In: von Eye, A., Clogg, C.C. (Eds.), *Latent Variables Analysis: Applications for Developmental Research*. Sage, Thousand Oaks, CA, pp. 399–419.
- Schäufele, I., Hamm, U., 2017. Consumers' perceptions, preferences and willingness-to-pay for wine with sustainability characteristics: a review. *J. Clean. Prod.* 147, 379–394. <https://doi.org/10.1016/j.jclepro.2017.01.118>.
- Schenk, P., 2019. A matter of principle: comparing norm-based explanations for fair trade consumption. *J. Consum. Pol.* 42 (3), 397–423. <https://doi.org/10.1007/s10603-018-9401-4>.
- Schwartz, S.H., 1977. Normative influences on altruism. In: Berkowitz, L. (Ed.), *Advances in Experimental Social Psychology*, 10. Academic Press, New York.
- Schwartz, S.H., 1992. Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. *Adv. Exp. Soc. Psychol.* 25, 1–65. [https://doi.org/10.1016/S0065-2601\(08\)60281-6](https://doi.org/10.1016/S0065-2601(08)60281-6).
- Scott Long, J., Freese, J., 2014. *Regression Models for Categorical Dependent Variables Using Stata*, third ed. Stata Press, College Station, TX.
- Segovia, M., Grashuis, J., Skevas, T., 2021. Consumer preferences for grocery purchasing during the COVID-19 pandemic: a quantile regression approach. *Br. Food J.* <https://doi.org/10.1108/BFJ-05-2021-0474> ahead-of-print.
- Sharma, V., Sonwalkar, J., 2013. Does consumer buying behavior change during economic crisis? *Int. J. Econ. Bus. Admin.* 1 (2), 33–48. <https://doi.org/10.35808/ijeba/9>.
- Shaw, N., Eschenbrenner, B., Baier, D., 2022. Online shopping continuance after COVID-19: a comparison of Canada, Germany and the United States. *J. Retailing Consum. Serv.* 69, 103100 <https://doi.org/10.1016/j.jretconser.2022.103100>.
- Sheth, J., 2020. Impact of covid-19 on consumer behavior: will the old habits return or die? *J. Bus. Res.* 117, 280–283. <https://doi.org/10.1016/j.jbusres.2020.05.059>.
- Shveda, K., 2020. How coronavirus is changing grocery shopping. Available online at. <https://www.bbc.com/future/ bespoke/ follow-the-food/ how-covid-19-is-changing-food-shopping.html>.
- Siriex, L., Delanchy, M., Remaud, H., Zepeda, L., Gurvey, P., 2013. Consumers' perceptions of individual and combined sustainable food labels: a UK pilot investigation. *Int. J. Consum. Stud.* 37 (2), 143–151. <https://doi.org/10.1111/j.1470-6431.2012.01109.x>.
- Spector, P.E., Rosen, C.C., Richardson, H.A., Williams, L.J., Johnson, R.E., 2019. A new perspective on method variance: A measure-centric approach. *J. Manage* 45 (3), 855–880. <https://doi.org/10.1177/0149206316687295>.

- Stampa, E., Schipmann-Schwarze, C., Hamm, U., 2020. Consumer perceptions, preferences, and behavior regarding pasture-raised livestock products: a review. *Food Qual. Prefer.* 82, 103872 <https://doi.org/10.1016/j.foodqual.2020.103872>.
- Steg, L., Vlek, C., 2009. Encouraging pro-environmental behaviour: an integrative review and research agenda. *J. Environ. Psychol.* 29 (3), 309–317. <https://doi.org/10.1016/j.jenvp.2008.10.004>.
- Stern, P.C., 2000. New environmental theories: toward a coherent theory of environmentally significant behavior. *J. Soc. Issues* 56 (3), 407–424. <https://doi.org/10.1111/0022-4537.00175>.
- Stern, P.C., Dietz, T., Abel, T., Guagnano, G.A., Kalof, L., 1999. A value-belief-norm theory of support for social movements: the case of environmentalism. *Hum. Ecol. Rev.* 6 (2), 81–97.
- Stone, R.N., Grønhaug, K., 1993. Perceived risk: further considerations for the marketing discipline. *Eur. J. Market.* 27 (3), 39–50. <https://doi.org/10.1108/03090569310026637>.
- Taghikhah, F., Voinov, A., Shukla, N., Filatova, T., 2020. Exploring consumer behavior and policy options in organic food adoption: insights from the Australian wine sector. *Environ. Sci. Pol.* 109 (April), 116–124. <https://doi.org/10.1016/j.envsci.2020.04.001>.
- Tempesta, T., Vecchiato, D., 2013. An analysis of the territorial factors affecting milk purchase in Italy. *Food Qual. Prefer.* 27 (1), 35–43. <https://doi.org/10.1016/j.foodqual.2012.06.005>.
- Vermeir, I., Weijters, B., De Houwer, J., Geuens, M., Slabbinck, H., Spruyt, A., Van Kerckhove, A., Van Lippevelde, W., De Steur, H., Verbeke, W., 2020. Environmentally sustainable food consumption: a review and research agenda from a goal-directed perspective. *Front. Psychol.* 11 (July) <https://doi.org/10.3389/fpsyg.2020.01603>.
- Verplanken, B., Holland, R.W., 2002. Motivated decision making: effects of activation and self-centrality of values on choices and behavior. *J. Pers. Soc. Psychol.* 82 (3), 434. <https://doi.org/10.1037/0022-3514.82.3.434>.
- Verplanken, B., Aarts, H., Van Knippenberg, A., 1997. Habit, information acquisition, and the process of making travel mode choices. *Eur. J. Soc. Psychol.* 27 (5), 539–560. [https://doi.org/10.1002/\(SICI\)1099-0992\(199709/10\)27:5<539::AID-EJSP831>3.0.CO;2-A](https://doi.org/10.1002/(SICI)1099-0992(199709/10)27:5<539::AID-EJSP831>3.0.CO;2-A).
- Wang, J., 2023. The relationship between loneliness and consumer shopping channel choice: evidence from China. *J. Retailing Consum. Serv.* 70, 103125 <https://doi.org/10.1016/j.jretconser.2022.103125>.
- Wang, X., Wong, Y.D., Yuen, K.F., 2021. Rise of 'lonely' consumers in the post-COVID-19 era: a synthesized review on psychological, commercial and social implications. *Int. J. Environ. Res. Publ. Health* 18 (2), 404. <https://doi.org/10.3390/ijerph18020404>.
- Williams, R., 2016. Understanding and interpreting generalized ordered logit models. *J. Math. Sociol.* 40 (1), 7–20. <https://doi.org/10.1080/0022250X.2015.1112384>.
- World Bank Health, Nutrition and Population, 2020. Economic Impact of COVID-19: Implications for Health Financing in Asia and the Pacific. World Bank, Washington (DC).
- World Economic Forum, 2020. 5 things supermarkets want you to know right now. Available online at: <https://www.weforum.org/agenda/2020/03/supermarkets-grocery-coronavirus-covid19-supply/>.
- Youn, H., Yin, R., Kim, J.H., Li, J.J., 2020. Examining traditional restaurant diners' intention: an application of the VBN theory. *Int. J. Hospit. Manag.* 85, 102360 <https://doi.org/10.1016/j.ijhm.2019.102360>.
- Youn, S.Y., Lee, J.E., Ha-Brookshire, J., 2021. Fashion consumers' channel switching behavior during the COVID-19: protection motivation theory in the extended planned behavior framework. *Cloth. Text. Res. J.* 39 (2), 139–156. <https://doi.org/10.1177/0887302X20986521>.
- Zepeda, L., Deal, D., 2009. Organic and local food consumer behaviour: alphabet theory. *Int. J. Consum. Stud.* 33 (6), 697–705. <https://doi.org/10.1111/j.1470-6431.2009.00814.x>.
- Zhao, X., Tsang, S.J., 2021. Self-protection by fact-checking: how pandemic information seeking and verifying affect preventive behaviours. *J. Contingencies Crisis Manag.* 1–14. <https://doi.org/10.1111/1468-5973.12372>.
- Zheng, X., Ruan, C., Zheng, L., 2021. Money or love? The impact of the COVID-19 pandemic on consumer life goals and subjective well-being. *J. Bus. Res.* 137, 626–633. <https://doi.org/10.1016/j.jbusres.2021.08.044>.
- Zwanka, R.J., Buff, C., 2021. COVID-19 generation: a conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic. *J. Int. Consum. Market.* 1–10 <https://doi.org/10.1080/08961530.2020.1771646>.