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Exploring consumers' behaviour towards short food supply chains

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note finali coverage

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**Title:** Exploring consumers' behaviour towards short food supply chains

### **Structured Abstract**

**Purpose** - Investigating the drivers of consumers' behaviour towards purchasing in Short Food Supply Chains (SFSCs) and clarifying their relationships, the paper aims to test the Theory of Planned Behaviour (TPB) in order to predict the intention and the behavior under investigation.

**Design** - The research includes a literature review of SFSCs. To investigate all the variables (attitudes, subjective norms, perceived behavioural control and intention) underlying consumers' behaviour towards buying in SFSCs, an exploratory survey with a TPB questionnaire and a Principal Component Analysis have been carried out among university students in Italy. Using a system of simultaneous equations, the relationships among variables have been measured.

**Findings** - Findings illustrate that both attitudinal variables (i.e. sustainability, typicality and loyalty), subjective norms and perceived behavioural control play a key role in the consumers' intention, that has a predictive effect on behaviour instead of perceived behavioural control.

**Value** - This paper fulfils the purpose to explain and predict post-modern consumers' preferences towards SFSCs, in order to orient policy strategies to support SFSCs.

**Keywords:** Short Food Supply Chains, Theory of Planned Behaviour, Principal Component Analysis, Simultaneous Equations System

**Article Classification:** Research paper

#### **1 Introduction**

2 The global food system and the mainstream markets are nowadays considered more and more  
3 unsustainable (Reisch *et al.*, 2013; Forssell and Lankoski, 2015). Pursuing high production  
4 volumes, high standardization levels and low food prices, intensive agriculture and industrial  
5 food production exact heavy environmental costs because of massive food wastage and the

6 strong dependence from fossil energy (Mundler and Rumpus, 2012). Not to mention that, in  
7 recent years, food scandals and scares all over the world have resulted in a reduced  
8 consumer's confidence (Forbes *et al.*, 2009) so that new sustainable food systems are  
9 currently required to replace the old schemes. In addition, with the introduction of modern  
10 food distribution systems, the direct link between farming-food and thus farmers-consumers  
11 vanished, the information asymmetry increased and consumer trust declined (Meyer *et al.*,  
12 2012). According to this, the turn to more sustainable farming methods and the creation of  
13 local and shorter food supply chains (SFSCs) arose in recent years, in order to meet the rising  
14 consumer's demand (Morris and Buller, 2003; Ilbery and Maye, 2005). Reconnecting farmers  
15 and consumers (Marsden *et al.*, 2000), Short Food Supply Chains (SFSCs) can be considered  
16 as a sustainable alternative to global markets in terms of economical, social and  
17 environmental benefits (Brunori and Bartolini, 2013). In recent years, these innovative short  
18 circuits have increasingly gained foothold across Europe and consumers themselves play an  
19 important role in supporting these initiatives. Following this trend, also the new Common  
20 Agricultural Policy (CAP 2014-2020) will support SFSCs as one of the new six priorities of  
21 EU rural development as well as a thematic sub-programme to which address specific needs.  
22 According to this, studying consumers' behaviour towards purchasing in SFSCs becomes of  
23 primarily importance. To this end, this paper aims at investigating all the variables (i.e.  
24 attitudes, subjective norms and perceived behavioural control) underlying consumers'  
25 intention towards shopping in SFSCs. According to this, the Theory of Planned Behaviour  
26 (TPB; Ajzen, 1991) proposes a model which can measure how consumers' intention is guided  
27 from the above mentioned variables. Since intention is assumed to be the immediate  
28 antecedent of behaviour, we applied Ajzen's theory to better understand what drives  
29 consumers' choice to buy food in SFSCs, in order to improve further empirical studies on  
30 consumer's behaviour towards short chains. Nevertheless, the understanding of the factors  
31 facilitating the performance of the investigated behaviour can influence both policy makers'  
32 decisions and the whole society (as farmers marketing strategies and consumers conscious  
33 involvement in SFSCs). A pilot survey has been conducted to investigate attitudes, by means  
34 of a semantic differential and a Principal Component Analysis (PCA); Subjective Norms  
35 (SN), Perceived Behavioural Control (PBC), and Intention (I) have been also measured  
36 through some self-anchoring scales. Finally, a system of simultaneous equations has been  
37 performed to test TPB.

38

### 39 **Literature review on short food supply chains**

40 Representing traditional or alternative niches of food production, distribution and  
41 consumption, SFSCs play a key role in this emerging scenario, as opposite to the conventional  
42 markets. Widely investigated, short chains consist of direct relationships between producers  
43 and consumers, thus reducing the number of commercial intermediaries and food miles (Galli  
44 and Brunori, 2013). Producers recapture their value in the supply chain as a consequence,  
45 increasing their income (Verhaegen and Van Huylenbroeck, 2001; Belletti *et al.*, 2010). Since  
46 producers and consumers can easily interact and share personal values and ethics, including  
47 the responsible management of common goods as environmental resources, short chains do  
48 not merely concern the economic nature of market exchange but they also generate the so-  
49 called consumers' social embeddedness that gratifies consumers in some way (Migliore *et al.*,  
50 2014). By this way, information asymmetry can be reduced and new solid loyalty and trust  
51 relationships can be built (D'Amico *et al.*, 2014; De-Magistris *et al.*, 2014). The existing sales  
52 schemes show a wide creativity of SFSCs: direct selling, box schemes, farmers' markets,  
53 pick-your-own, on-farm sales, consumer cooperatives, direct internet sales, community  
54 supported agriculture, and e-commerce. However, there are mainly three different categories  
55 (Renting *et al.*, 2003): "*face-to-face*" initiatives (e.g. on-farm sales, farm shops, farmers'  
56 markets); "*spatially proximate*" initiatives, in which food is produced and retailed within the  
57 specific region of production; finally, "*spatially extended*" initiatives, where products are  
58 sold to consumers located outside the production area. Since SFSCs are nowadays widely  
59 perceived as a step toward sustainable agriculture, many authors (Roos *et al.*, 2007; Cicatiello  
60 *et al.*, 2012; Gava *et al.*, 2014; Bimbo *et al.*, 2015) extensively investigated all the related  
61 impacts: economic sustainability, environmental sustainability, social sustainability, the  
62 impact on human health (food quality and wellbeing), and the ethical impact. Strictly  
63 connected to organic and local food and traditional small-scale productions (Kneafsey *et al.*,  
64 2013), short chains embody a more endogenous, territorialized, ethical and ecological  
65 approach towards food products (Goodman, 2004). Re-socialising and re-spatialising food  
66 (Hallett, 2012), SFSCs can be an engine for territorial development (income growth and  
67 territorial value-added) both in rural and in peri-urban areas (Tregear *et al.*, 2007; Aubry and  
68 Kebir, 2013; Knezevic *et al.*, 2013; O'Neill, 2014), becoming expression of cultural capital  
69 and rural embeddedness (Hinrichs, 2000; Sage, 2003; Kirwan, 2004). In the post-modern  
70 society, SFSCs embody the consumer's "quality turn" reflecting recent developments in post-  
71 modern consumers, who increasingly look for food quality and traceability (Panico *et al.*,  
72 2014; Scozzafava *et al.*, 2014; Verneau *et al.*, 2014) but also tradition and transparency that  
73 are more guaranteed by short circuits in spite of global industrial production.

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75 **Data and methods**

76 In the field of studies on consumer behaviour, different techniques have been proposed and  
77 gradually developed. The present study turns to social psychology and the Theory of Planned  
78 Behaviour (TPB) (Ajzen, 1991), proved to be a successful tool to predict and explain a wide  
79 variety of human behaviours as post-modern consumers' purchasing preferences and food  
80 choices (Verbeke and Vackier, 2005; Vermeir and Verbeke, 2008) [1]. According to the  
81 theory, three global variables (attitude towards the behaviour, Subjective Norms - SN, and  
82 Perceived Behavioural Control - PBC) contribute to the creation of the Intention (I), that is  
83 assumed to immediately precede a specific human behaviour. Besides this, TPB identifies  
84 behavioural beliefs, normative beliefs and control beliefs as reliable predictors of the above-  
85 mentioned variables. In addition, sometimes the perception of control over a performing  
86 behaviour can be an antecedent of the behaviour. In December 2014, we built a 7 open-ended  
87 questions TPB pilot questionnaire, defined taking into account Ajzen's conceptual and  
88 methodological considerations (Ajzen, 2006). We conducted a preliminary exploratory  
89 research through direct interviews. We asked to a sample of 100 university students to express  
90 their opinion about SFSCs, eliciting readily accessible variables about attitude, SN and PBC  
91 that, on the whole, produce the intention to behave. Afterwards, all the variables have been  
92 collected by means of a content analysis, identifying some item's categories through a  
93 deductive extraction (Weber, 1990; Losito, 2007), based both on the exact wording used in  
94 the answers and on SFSCs' literature through a logical-semantic approach. Based on this  
95 previous survey, a more complete exploratory analysis has been performed. In January 2015,  
96 data have been collected by carrying out a pilot questionnaire on a convenience sample  
97 (Ayala *et al.*, 2013) of 120 university students (n = 120) (Cholette *et al.*, 2013) from the  
98 Faculty of Agricultural Sciences at Università Politecnica delle Marche in Italy. Of all the  
99 students interviewed, the percentage of female and male respondents are nearly equal (Tab.1),  
100 97 percent are Italian, whereas almost 53 percent are undergraduates. Approximately 65  
101 percent live in urban areas, while 35 percent in rural areas where the territorial distribution of  
102 direct sales' practices is widespread. Finally, 56 percent of the interviewees admit to go  
103 personally grocery shopping, 15 percent are habitual consumers of organic food while 66  
104 percent sometimes buy it.

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*Table 1. Sample descriptive statistics*

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108 The above mentioned questionnaire is divided into three parts: the first enclosing up to eight  
 109 socio-demographic questions describing the sample; the second part investigating the annual  
 110 frequency of SFSCs purchase; the last section measuring TPB variables and intention.  
 111 According to the last section, a seven-point semantic differential with anchor points 1 =  
 112 strongly agree to 7 = strongly disagree has been designed to measure all the attitudinal  
 113 variables derived from the preliminary explorative analysis. In addition, some self-anchoring  
 114 scales have been used, with anchor points 1=strongly agree to 7=strongly disagree, based on a  
 115 set of statements on which interviewees had to express their level of agreement, in order to  
 116 measure SN, PBC and I besides. In order to summarize the information obtained by both the  
 117 semantic differential and the self-anchoring scales, a Principal Component Analysis (PCA)  
 118 with orthogonal (Varimax) rotation has been consequently performed. According to  
 119 correlations among items, PCA can easily condense consumers' responses from the original  
 120 variety of items into a smaller set of principal dimensions that are called principal components  
 121 (PC). Furthermore, according to their Cronbach's alpha coefficient, that measures the internal  
 122 consistency of items in order to gauge their reliability, all the above mentioned TPB variables  
 123 have been scrutinized. In addition, the annual frequency of purchasing in SFSCs has been  
 124 estimated, representing the behaviour under investigation. Finally, a system of simultaneous  
 125 equations has been implemented to measure the relationships among attitudes, SN and PBC  
 126 on Intention (2), and between the latter and PBC on the behaviour (BEH) (1). More precisely,  
 127 the structural scheme of the three-stage least squares regression here adopted can be viewed  
 128 as a synthesis of Ajzen's TPB for modeling consumers' behaviour toward buying food in  
 129 SFSCs. Endogenizing the intention (I) to buy in SFSCs and the annual purchase frequency  
 130 (BEH) of the interviewees, the system consists of the following equations:

$$131 \quad BEH_i = f(I_i, PBC_i) \quad (1)$$

$$132 \quad I_i = f(S_i, C_i, T_i, L_i, SN_i, PBC_i) \quad (2)$$

133 where the endogenous variables are:

134  $BEH_i$  = Behaviour represented by the annual frequency to purchase food in SFSCs of  
 135 individual  $i$

136  $I_i$  = Intention to purchase food in SFSCs of the individual  $i$

137 And the exogenous variables are:

138  $S_i$  = General attitude towards the Sustainability of buying food in SFSCs, measured by a  
 139 semantic differential (twelve items)

140  $C_i$  = General attitude towards the Convenience of buying food in SFSCs, measured by a  
 141 semantic differential (five items)

142  $T_i$  = General attitude towards the Typicality's perceived added value of SFSCs products,  
143 measured by a semantic differential (three items)

144  $L_i$  = General attitude towards the SFSCs' producers Loyalty, measured by a semantic  
145 differential (two items)

146  $SN_i$  = Subjective Norms associated with the intention to purchase food in SFSCs of the  
147 individual  $i$

148  $PBC_i$  = Perceived Behavioural Control of the individual  $i$  associated with both the intention  
149 and the behaviour towards purchasing food in SFSCs

150

### 151 **Empirical results and discussion**

152 A total of 112 interviewees have given complete answers to the behavioural questions.  
153 According to attitudes (Tab.2), the interviewees have been asked to describe what they  
154 thought about buying in local SFSCs during their annual shopping. Afterwards, a PCA has  
155 recombined the original 34 items of the semantic differential into 7 principal components  
156 (PCs). Among these, results show that sustainability (S;  $\alpha = 0,952$ ; 42,3% of total variance),  
157 convenience (C;  $\alpha = 0,856$ ; 9,2% of total variance), and gratifying (G;  $\alpha = 0,860$ ; 6,1% of  
158 total variance), having the eigenvalue greater than 1, together explain up to 58% of total  
159 variance. Nevertheless, some other important information emerge from the other extracted  
160 PCs, as food safety (FS;  $\alpha = 0,868$ ), desirable (D;  $\alpha = 0,843$ ), loyalty (L; P value = 0,790), and  
161 typicality (T;  $\alpha = 0,709$ ), that are observed in the literature and could be interesting for further  
162 research on consumers' SFSCs shopping attitudes. According to sustainability (S), in our  
163 analysis this attitudinal variable is depicted by some 12 items expressing consumers' attitude  
164 towards health care (e.g. salubrious) but also the perceived importance of knowledge-transfer  
165 (pleasant; educational; aware; satisfying), and both the sensitivity towards the socio-  
166 environmental sustainability and ethics related to local development (e.g. ethical; sustainable;  
167 green; honest; local; important; necessary). The theme of sustainability is very important for  
168 SFSCs (Selfa and Qazi, 2005; Schmid *et al.*, 2014) and it is strictly related to the direct  
169 relationship between consumers and producers that is typical in SFSCs (Giampietri *et al.*,  
170 2015), sparking the creation of a room for reflexive consumer praxis (Goodman and Dupuis,  
171 2002). In fact, the direct contact involves the reciprocal interaction and dialogue exchange  
172 among the different actors, that can be engine of values sharing such as trust and ethics (La  
173 Barbera *et al.*, 2014). Participating in short circuits consumers also feel totally involved in  
174 local development so that it can be reasonably pleasant and suggestive for them. Thus, this is  
175 the theme of SFSCs embeddedness which is closely linked to reflexive consumerism (Starr,

176 2010; Sage, 2014), testifying the post-modern consumers' perceived importance of local  
177 development as well as socio-economic links. In addition, direct relationships also prevent  
178 information asymmetry on food safety by means of consumer' acquiring more information on  
179 the product and its production process, thus generating a consumers' knowledge-related  
180 satisfaction and a stimulus to SFSCs affiliation.

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182

*Table 2. Attitudes' Principal Component Analysis*

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184 Furthermore, convenience (C) is assessed with 5 items expressing both economic (cheap;  
185 convenient) and individual convenience (simple; easy; fast), that is linked to SFSCs'  
186 perceived ease and time saving. Finally, the third PC that is gratifying (G) lights up more  
187 emphasis on the pleasantness positive effect that consumers have as a result of their direct  
188 involvement in this kind of sustainable activities. This underlies both the playful function  
189 (fun; relaxing; suggestive) of purchasing in SFSCs and the stimulating sensation to repurchase  
190 (stimulating; dynamic). As a matter of fact, encouraging and supporting short circuits (i.e.  
191 direct selling or farmers' markets), consumers actively participate in traditional niche  
192 markets' value creation and in local products' valorization, attaining some personal  
193 gratification (Vermeir and Verbeke, 2006). Consumers' gratification also derives from the  
194 direct value exchange and social interactions that are strictly inherent in the participation in  
195 SFSCs (the so-called social embeddedness component) and that are involved in trust and  
196 loyalty creation among producers and consumers (Cembalo *et al.*, 2015). Moreover, SN and  
197 PBC have been measured by means of three questions each one (SN1, SN2, SN3 and PBC1,  
198 PBC2, PBC3 respectively), while four questions (I1, I2, I3, I4) refer to I (Tab.3). Some  
199 questions related to SN and PBC have been previously eliminated because they were not  
200 significant at all. PCA proves that both SN ( $\alpha = 0,832$ ) and I ( $\alpha = 0,905$ ) are represented by  
201 only one principal component, while PBC by two PCs and the first of them (PC1) ( $\rho =$   
202  $0,681$ ) can be left out.

203

204

*Table 3. SN', PBC' and I's Principal Component Analysis*

205

206 Moreover, the frequency of their annual shopping in SFSCs (How often did you buy in local  
207 Short Food Supply Chains - SFSCs- last year?), among six different possibilities, has been  
208 asked to the interviewees. Table 4 shows that most of the interviewees (66,1%) buy in SFSCs  
209 more than one day in a month, while a very little part (6,3%) never does this.



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*Table 4. Annual SFSCs buying frequency*

The system estimation results are listed in Table 5. As concerns the behaviour under investigation, significant coefficients for intention and PBC can be observed. While the second has negative influence on the consumers' annual SFSCs purchasing frequency, unlike the traditional approach of the TPB that considers PBC making a significant contribution to the behaviour's prediction, the first one is positively related to the investigated behaviour. According to this result, the existence of a direct relationship between consumers' intention (I) and behaviour (BEH) can be confirmed. With regard to the intention to buy food in local SFSCs, the most important attitudes influencing consumers are sustainability (S), convenience (C), typicality (T) and loyalty (L). They all are statistically significant predictors ( $p < 0.10$ ) of I and, among them, loyalty is the main determinant, proving to be very important for consumers (Gao *et al.*, 2012). Nevertheless, convenience has a negative influence on I, indicating that consumers having a strong propensity to save money are less willing to buy in SFSCs (Wolf *et al.*, 2005). Excluding convenience as a relevant factor to buy food in SFSCs, this also supports the idea that more attention should be paid on the other variables (as the above mentioned literature confirms), including consumers' gratification. With regards to this, although our regression doesn't show any significance, consumer's gratification deserves a prominent role to explain the investigated behaviour, proving both the post-modern consumer's new role as a leading actor in the market exchange and his refusing the passive role in the food system (DuPuis, 2000). In addition, according to Ajzen, SN is found to be an important element indicating that consumers' intention to buy in SFSCs is the result of the consideration of social pressure to perform or not perform that behaviour. According to our previous content analysis, the salient referents that approve or not consumers' engaging in the considered behaviour are mainly family and friends. Furthermore, PBC is found to predict the intention revealing that the individual perceived ease or difficulty in performing the behaviour can considerably affect intention's variance. These confirm that, as a general Ajzen's rule, the more favorable the attitudes and the subjective norms, the greater the PBC, the stronger is consumer's intention to buy in SFSCs. Since this pilot study represents the first application of TPB to SFSCs (without a supporting literature on the application of this theory to this topic), its principal aim is to determine the main variables affecting consumers' intention and therefore it can be considered as a starting point for further studies on consumer behaviour. After all these premises, we have to appreciate the coefficients with caution, considering the

244 limitations of such a starting research. However, although the analysis employs a sample of  
245 university students, our results can be considered on par with those of a more representative  
246 sample (Depositario et al., 2009).

247 *Table 5. Influence of TPB's variables on behaviour (BEH) and intention (I)*

248

249 *Figure 1. Conceptual model for consumers' food purchase intention and behaviour*

250

## 251 **Conclusions**

252 The purpose of this study is to suggest an empirical model to explain how consumers'  
253 intention to purchase food in SFSCs is influenced by some major variables, according to  
254 Ajzen's Theory of Planned Behaviour that here has been tested for the first time on SFSCs.  
255 Based on a previous explorative survey, this work presents a preliminary study that explores  
256 the main determinants of consumers' intention (I) and behaviour, i.e. attitudes, Subjective  
257 Norms (SN) and Perceived Behavioural Control (PBC). Data have been collected in January  
258 2015, by carrying out a TPB questionnaire on a convenience sample of Italian university  
259 students (n=120). A semantic differential has been edited to measure attitudes, ensuing a PCA  
260 that condensed interviewees' responses into seven principal components. By means of some  
261 self-anchored scales also SN, PBC and I have been measured. As a result, sustainability,  
262 convenience and consumers' personal gratification are found to be the most significant  
263 elicited attitudes that predict the intention to buy in SFSCs, since they explain up to 58% of  
264 total variance. These components, assessed by multiple variables, include different aspects  
265 and relevant information orienting SFSCs' shopping attitudes of post-modern consumer.  
266 Additionally, some other components have been founded, as food safety (FS), desirability  
267 (D), loyalty (L) and typicality (T), stressing some precious, additional information. Finally,  
268 using simultaneous equations modeling, Ajzen's model has been empirically tested in order to  
269 prove the influence of all the variables on the intention and the behaviour under investigation.  
270 Such results (Fig.1) confirm that, among attitudes, consumers' sustainability concern, the  
271 typical nature of local food and the loyalty based on the direct-contact between producers and  
272 consumers have a significant predictive effect on the intention. On the contrary, convenience  
273 has a significant but negative effect on intention, proving that SFSCs contrast with  
274 consumers' propensity for money and extend post-modern consumer's time saving. In  
275 addition, SN and PBC are also considered to be significant predictors of the intention, and the  
276 norms above all. As concerns the behaviour under investigation, there are some evidences

277 about the predictive effect of the intention on the consumers' annual SFSCs purchasing  
278 frequency, unlike PBC. Overall, according to the theory, R is greater for intention than for  
279 behaviour. Our analysis collects some interesting results, although this is a pilot study: some  
280 of them are in line with the analyzed literature on the topic while some other show us a new  
281 importance and new pathways to study. This is the case of gratification: although this  
282 indirectly emerges from our regression as a result of the proved negative effect of  
283 convenience, its importance confirms in some way the active role of post-modern consumer in  
284 his purchasing choices and it seems to be a interesting attitude to scrutinize. In conclusion,  
285 TPB is found to be a good tool to predict consumers' intention towards purchasing in SFSCs.  
286 Since the intention under investigation can be considered an antecedent of the behaviour, such  
287 previous results can provide a better understanding of factors influencing consumers'  
288 preference for SFSCs instead of conventional markets, also engendering many relevant policy  
289 implications to the development of SFSCs marketing strategies. In Italy the agrifood sector is  
290 mainly dominated by large scale retail trade so the agrifood sector has to restore the direct  
291 contact between farmers and consumers, e.g. encouraging the spreading of farmers' markets,  
292 in order to increase the added value of agricultural production. According to new CAP's  
293 support to SFSCs, appropriate actions could be chosen to promote SFSCs, as tailoring  
294 communication and marketing strategies on the above mentioned attitudinal variables, among  
295 both consumers and farmers. The knowledge of the drivers of consumers' intention can  
296 manage to more proper and effective policy strategies, in order to meet the rising consumer's  
297 demand for more sustainable alternative chains, to increase their interest towards SFSCs and  
298 their involvement in such alternative agri-food networks and finally to contribute to the social  
299 and economical territorial development, according to new CAP trajectories for the agri-food  
300 sector. In addition, these results can be helpful also for farmers to better target their products  
301 promotion on consumers' values, aiming for their sustainable role and production, reducing  
302 the negative information asymmetry (by means of an enhanced direct link with the consumer)  
303 and finally investing more in typical food varieties. Moreover, it looks interesting to see that  
304 food safety does not compare among the first components considered by consumers and this  
305 highlights how sometimes communication and policy strategies built on SFSCs' safety can  
306 misinterpret the reality, being a source of risk in case of scandals. Nevertheless, this work  
307 embodies an articulate approach that requires some other deep analysis of consumers'  
308 behaviour. Even though this is a starting consumer's analysis, on the basis of our initial  
309 results on the intention further study will better investigate the interaction between intention  
310 and behaviour. Moreover, we will also analyse consumers' behaviour towards SFSCs by

311 means of a more common Behavioural Economic approach (Toler *et al.*, 2009) also surveying  
312 a more representative sample.

313

#### 314 **Notes**

315 1. For a list of all the applications of the Theory of Planned Behaviour, please see the Author bibliographic file  
316 (<http://people.umass.edu/aizen/tpbrefs.html>)

317

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CATEGORIES	ITEMS	FREQUENCY	% FREQUENCY	STD. DEV.
Gender	female	51,9	46,4%	0,501
	male	60,1	53,6%	
Nationality	italians	108,9	97,2%	1,868
	strangers	3,1	2,8%	
Education	under-graduated	59,7	53,3%	1,895
	graduated	52,3	46,7%	
Residence	urban	73,3	65,4%	0,479
	rural	38,7	34,6%	
Household net income	<25.000€	40,2	35,9%	2,85
	25.000-50.000€	56,0	50,0%	
	50.000-75.000€	9,7	8,6%	
	>75.000€	6,1	5,4%	
N. of household members	1 unit	6,3	5,6%	1,682
	2 units	13,7	12,3%	
	3 units	16,9	15,1%	
	4 units	52,8	47,2%	
	5 units	14,8	13,2%	
	6 units	7,4	6,5%	
To go personally grocery shopping	yes	62,6	55,8%	0,949
	no	49,4	44,1%	
Buying organic	always	17,2	15,3%	0,88
	sometimes	73,7	65,8%	
	never	21,2	18,9%	

*Table 1. Sample descriptive statistics*

ITEMS	COMPONENTS						
	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7
<b>SUSTAINABILITY</b>							
Pleasant	0,622	0,120	0,478	0,021	0,298	0,125	0,038
Salubrious	0,596	0,067	0,105	0,464	0,333	0,077	0,250
Ethical	0,817	0,080	0,114	0,218	0,125	0,048	0,114
Sustainable	0,767	0,198	0,033	0,158	0,109	-0,018	0,104
Satisfying	0,817	0,175	0,173	0,228	0,085	0,039	0,151
Green	0,756	0,195	0,029	0,366	0,103	-0,162	0,143
Educational	0,795	0,128	0,227	0,185	0,065	-0,007	0,148
Local	0,587	-0,058	0,056	-0,094	0,510	0,175	0,304
Aware	0,714	0,114	0,245	0,097	0,256	0,103	0,012
Important	0,759	0,133	0,128	0,024	0,305	0,347	0,021
Necessary	0,616	0,236	0,171	0,076	0,221	0,490	-0,091
Honest	0,627	0,178	0,285	0,336	0,090	0,210	0,211
<b>CONVENIENCE</b>							
Simple	0,147	0,818	0,248	0,046	0,011	0,101	-0,033
Cheap	0,170	0,803	-0,014	0,120	0,178	0,110	0,059
Easy	0,148	0,800	0,191	0,082	0,079	0,170	0,007
Fast	0,000	0,583	0,232	0,289	-0,230	0,386	0,037
Convenient	0,365	0,572	0,121	0,227	0,142	0,142	-0,029
<b>GRATIFYING</b>							
Fun	0,243	0,203	0,718	0,023	0,126	0,000	0,191
Stimulating	0,535	0,166	0,583	0,125	0,028	0,121	0,161
Relaxing	0,093	0,358	0,699	0,073	0,022	0,341	-0,002
Dynamic	0,446	0,160	0,569	0,164	-0,034	0,169	0,042
Suggestive	0,404	0,063	0,632	0,058	0,248	0,136	0,213
<b>FOOD SAFETY</b>							
Safe	0,438	0,217	0,019	0,711	0,129	0,177	-0,032
Healthy	0,230	0,280	0,145	0,727	0,024	0,182	0,077
Transparent	0,430	0,161	0,180	0,537	0,245	0,191	0,183
Qualitative	0,527	0,017	0,094	0,616	0,328	0,054	0,131
<b>DESIRABLE</b>							
Enjoyable	0,258	0,312	0,308	0,087	0,534	0,214	0,191
Good	0,472	0,149	0,211	0,254	0,664	0,050	0,032
Useful	0,431	0,074	0,232	0,211	0,644	0,107	-0,112
<b>LOYALTY</b>							
Frequent	0,042	0,360	0,125	0,116	0,124	0,788	0,139
Usual	0,132	0,298	0,220	0,314	0,148	0,744	0,096
<b>TYPICALITY</b>							
Traditional	-0,008	0,045	0,175	0,283	0,327	-0,046	0,644
Niche	0,167	-0,080	0,104	-0,030	-0,067	0,181	0,816
Typical	0,389	0,097	0,283	0,059	0,115	-0,018	0,668
<i>Cronbach's α</i>	0,952	0,856	0,860	0,868	0,843		0,709
<i>P value</i>						0,790	
<b>% variance</b>	<b>42,3</b>	<b>9,2</b>	<b>6,1</b>	<b>4,5</b>	<b>3,7</b>	<b>3,2</b>	<b>2,9</b>

Table 2. Attitudes' Principal Component Analysis

TPB VARIABLES	QUESTIONS	ITEMS	COMPONENT	
			PC1	PC2
Subjective Norms (SN)	(SN1) - Most people who are important to me approve that I prefer to buy in local Short Food Supply Chains (SFSCs) during the annual shopping. (SN2) - Most people who are important to me think that I SHOULD buy in local Short Food Supply Chains (SFSCs) during my annual shopping. (SN3) - Many people like that I buy in local Short Food Supply Chains (SFSCs) during the annual shopping.	total agree	0,893	
		should	0,849	
		likely	0,781	
		Cronbach's $\alpha$	0,832	
Perceived Behavioural Control (PBC)	(PBC1) - Buying in local Short Food Supply Chains (SFSCs) during the annual shopping for me is POSSIBLE. (PBC2) - If I wanted to, I could go grocery shopping in local Short Food Supply Chains (SFSCs). (PBC3) - How much control do you believe to have over buying in local Short Food Supply Chains (SFSCs)?	possible	0,891	0,080
		totally true	0,823	-0,171
		no control	-0,049	0,976
		P value	0,681	
Intention (I)	(I1) - I intend to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. (I2) - I intend to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. (I3) - I plan to buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping. (I4) - I buy in local Short Food Supply Chains (SFSCs) for my annual grocery shopping.	likely	0,918	
		totally true	0,911	
		total agree	0,849	
		totally true	0,849	
		Cronbach's $\alpha$	0,905	

Table 3. SN', PBC' and I's Principal Component Analysis

QUESTION	ITEMS	FREQUENCY	% FREQUENCY
How often did you buy in local Short Food Supply Chains (SFSCs) last year?	every day	34	30,4%
	one time in a week	26	23,2%
	one time every 15 days	14	12,5%
	one time in a month	19	17,0%
	one time in a year	12	10,7%
	never	7	6,3%
	tot.	112	100,0%

*Table 4. Annual SFSCs buying frequency*

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**THREE-STAGE LEAST-SQUARES REGRESSION**

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
BEHAVIOUR (BEH)	112	2	1.179499	0.4513	90.70	0.0000
INTENTION (I)	112	6	.6781816	0.7254	298.38	0.0000

---

<b>Annual SFSCs purchasing frequency (BEH)</b>	COEFFICIENTS	P-VALUE
Intention to buy in SFSCs (I)	1.010	0.000
Perceived behavioural control to buy in SFSCs (PBC)	-0.055	0.634
cons	0.021	0.944

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<b>Intention to buy in SFSCs (I)</b>	COEFFICIENTS	P-VALUE
Sustainability (S)	0.161	0.044
Convenience (C)	-0.109	0.082
Typicality (T)	0.101	0.092
Loyalty (L)	0.283	0.000
Subjective Norms (SN)	0.486	0.000
Perceived Behavioural Control (PBC)	0.136	0.027
cons	-0.187	0.404

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*Table 5. Influence of TPB's variables on behavior (BEH) and intention (I)*

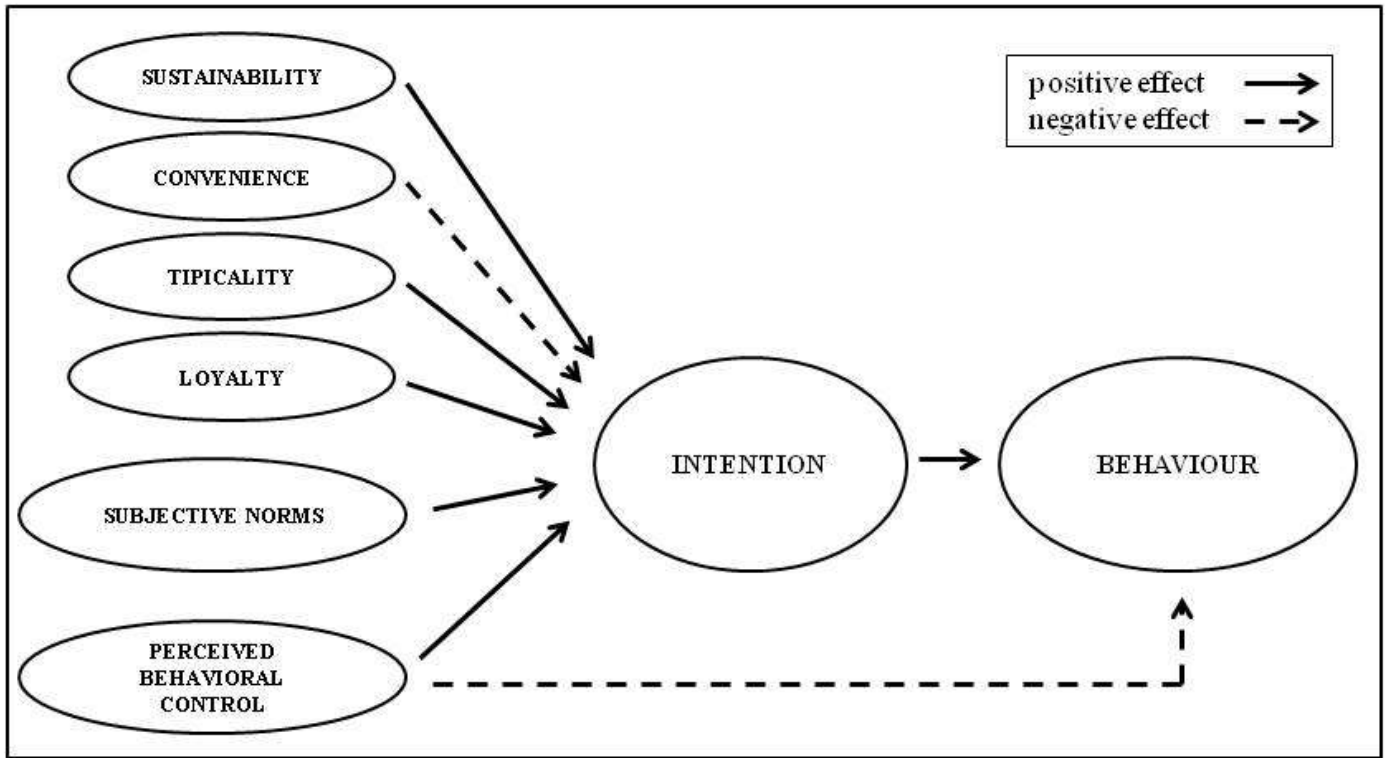


Figure 1. Conceptual model for consumers' food purchase intention and behaviour