

What do Greek users buy online during the period of the financial crisis and is it food among them?

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Abstract

The present research attempts to identify the impact of the financial crisis on online shopping in Greece, while identifying the percentage of Greeks purchasing food online, as well as their characteristics and preferences. In that sense, it acts merely as a starting point for related academic research in the Greek online market. Results show a negative impact of the financial crisis in the disposable income towards online purchases and rather low levels of online food purchases.

Keywords: financial crisis, online shopping, online food shopping

Introduction

Despite being in the middle of a significant financial crisis, online commerce in Greece is on the rise. ELTRUN's recent study (2014) showed an increase in online spending in all sectors, with a particular emphasis on hotel reservations, ticket purchases (for music shows etc.), telecommunication services and insurance. This comes in direct contrast with the overall decreasing spending levels, which poses an interesting question - is online behavior impacted by the present financial crisis?

At the same time, new sectors arise in the online landscape, with food being one of them. ELTRUN's study identifies at least 3 sectors related to food (take - away food, dietary supplements and supermarket purchases), with some of the presenting high usage percentages. 30% of the respondents have purchased take - away food 1-6 times during the last 9 months, while a further 15% has purchased more than 7 times.

The present study has two main aims: it, firstly, attempts to examine the impact of the financial crisis on Internet overall usage and, secondly, to examine food consumption online and those consumers' characteristics and attitudes towards online shopping related subjects.

The impact of financial crisis on online retail

With Greece experiencing one of the strongest financial crises of its modern history, research on the impact of the financial turmoil on online shopping behavior is essential for managers in most sectors. Despite several financial crises during the last 10 years (such as the 2007 subprime mortgage crisis in the US, or the existing crises in the EU), existing academic research is limited. Ghadami, Aghaie &

Mohammadkhan (2010) attempted to investigate the impact of a crisis on B2C e-commerce and found that the majority of online users in 2008 (the year following the break out of the subprime mortgage crises) planned to reduce their online spending, during holiday shopping. The researchers also found that online consumers represented in their survey had a higher average household income, and those with an income of \$100,000 and above showed less impact than those who had smaller household incomes.

Available data from various providers reveal a continuous growth of e-commerce sales. In a worldwide level, e-commerce sales first topped 1 trillion dollars in 2012, and were expected to grow to at least 1.12 trillion by the end of 2013 (eMarketer, 2013). However, the rapid increase comes mainly from the Asia-Pacific market and especially China, with traditional markets, such as North America and Western Europe witnessing growth rates of less than 10%.

Regarding Greece, European Commission statistics (2013) show that the percentage of people having purchased goods or services online during the last 3 months within 2013 is 17%. Although the increase from 2012 is marginal (16%), the increase since 2010 (the year Greece started adopting austerity measures) has been phenomenal (89%). The increase in online purchases is also supported by Consumer Barometer (2013) – 24% of the Greek online population has purchased a product or service online, during 2013. According to the same data, internet is also a major source of information prior to a purchase, being part of 74% of all research paths.

The research question from this part is:

- 1 What is the impact of the current financial crisis on users' disposable income and their online spending?

Food and e-commerce

The academic literature, regarding food and e-commerce, is, to date, rather limited. Few researchers have attempted investigating how people purchase food online. Bodini and Zanolli (2011) researched several wine stores, with regards to their scores in several attributes (such as usability) and their impact on customer satisfaction. Kimes also (2011) researched the factors that affect online purchase for US restaurants that accept online orders. Interestingly, although restaurant owners considered convenience as one of the reasons why users purchased online, consumers pointed out to the order accuracy and control over the process as the main reason for doing so. Daim et al. (2013) researched factors that affect online shopping, with an interest on innovation from food sellers, in order to create an initial theoretical framework.

At the same time, there is also research in the area of grocery purchases. Some researchers, such as Morganosky and Cude (2000), try to identify the various users' typologies that use online groceries purchases. Hansen et al. (2004) validated the impact of the TRA/TPB models in predicting users' intention to purchase groceries online, in a similar way as Ramus and Nielsen (2005), who employed (and validated) the TPB model. TAM has also been used, with some extremely good results, in terms of predictability, as in the case of Hui and Wan (2009)

Moreover, from a consumer perspective, users prefer purchasing food/groceries online due to a number of reasons, such as disabilities (Morganosky and Cude, 2000) or convenience and price (Ramus and Nielsen, 2005). Finally, Dickey and Lewis (2009) attempt to assess the value obtained by online groceries' consumers, in order to create a methodology for designing related business models.

However, non - academic sources draw a clear picture of the current state of food and e-commerce. With regards to Greece, Consumer Barometer shows that, as of 2013, only 0.76% of Greek online users have purchased groceries online, as opposed to 11% in the United Kingdom. However, users present "researcher" behavior in online environments, with 8% researching only online before purchasing and 24% combining online and offline research prior to purchase (the latter being much higher than in the UK - 9%).

The research questions from this part are:

- 1 Do Greek users purchase food - related goods online?
- 2 What are the characteristics of the Greek online food customer, as well as his/her attitudes towards online shopping in general?

Methodology

Survey design, sampling and participants

The study made use of a structured questionnaire in order to measure: a) demographics of the sample, b) the impact of the financial crisis on users' perceptions and usage of the internet and c) the profile of online food customers. The survey was designed in Greek and 200 respondents participated in the study.

With regards to sampling procedure, non-probability sampling techniques were utilized (in particular, convenience sampling).

Questionnaire structure

The structured questionnaire used for the purposes of the current study included 20 questions in total and it was divided in two sections.

The first section was designed to obtain demographic sample data, as well as internet usage data and it was composed of 8 questions (gender, age, level of studies, profession, salary level, frequency of internet usage, main online activities), with the last question being the main screening question, identifying users as having purchased a product/service online or not.

The second section was split in two parts, and depended on users answer in question 8: on a positive answer, respondents were directed to a set of 8 questions covering the attitudes towards specific online attributes, attitudes towards online purchases in general, the impact of the financial crisis on online spending in the last three years, the disposable income for online purchases, the products/services obtained online, the preference on Greek or foreign online shops and users' perceptions on several attributes, regarding offline and online shops. On a negative answer, respondents were directed to a set of 3 questions, outlining the main reason for not purchasing online, views

on the cases where e-commerce is essential and probability of making an online purchase within the following 6 months.

Analysis

Sample profile

200 Greek nationals participated in the research, with a range of age from 15 to 40+ years. 89.5% of the respondents were in the age group from 15 to 29 (15-19, 22.5% / 20-24, 54% / 25-29, 13%), with 47% of them having a university degree (bachelor, master, PhD, post PhD). Regarding profession, the vast majority of the participants were students (67.5%), with a further 21.5% being unemployed and only 11% being employed. Regarding salary levels, 78% reported a salary of less than 500 euros, 16% a salary ranging between 501 - 1000 euros, and only 6% of the respondents have a salary higher than 1000 euros.

Internet usage distribution was also extremely skewed, with 86% of the sample going online on a daily basis. Only 1.5% of the sample mentioned being online less than once every week. Finally, contrary to the low salary levels reported in the sample, 57% of all respondents have purchased a product or service online.

Analysis focused on identifying the impact of the crisis on Greek users online behaviour and, subsequently, on creating an initial picture of the online food customer.

Impact of the financial crisis on Online Shopping

With regards to the first aim of the research, users who gave a positive answer on Q8 ("Have you purchased a product/service online?") were subsequently asked about the impact of the financial crisis on their online shopping (Q11 - not implying an increase or decrease), and the increase or decrease of their disposable income towards internet shopping (Q12).

Starting from the amount of disposable income towards internet shopping, Chi - Square analysis revealed a strong relationship to the impact of the financial crisis factor. In particular, most of the respondents who felt the impact of the financial crisis on their online behavior during the last 3 years (51.3%) have decreased their online disposable income. In contrast, only 17.1% of those impacted by the financial crisis have increased online spending.

Table 1: Chi-Square Tests for Amount for Online Purchase/ Financial Crisis Impact

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.681a	2	.000
Likelihood Ratio	19.455	2	.000
Linear-by-Linear Association	11.647	1	.001
N of Valid Cases	114		

Table 2: Crosstabs Amount for Online Purchase/Financial Crisis Impact

			Amount for Online Purchases		
			Yes, Increased	Yes, Decreased	No
Financial Crisis Impact	Yes	Count	13	39	24
		% of Total	11.4%	34.2%	21.1%
	No	Count	4	6	28
		% of Total	3.5%	5.3%	24.6%

At the same time, one-way ANOVA tests revealed no significant relationship between the increase or decrease of budget spent and the attitude towards internet purchase.

Results from this part of the research are not the ones expected from the literature. Although in accordance to academic research, which mentions that users decrease their online spending as a result of a financial crisis, the aforementioned results come in direct contrast with existing research by various institutions (ELTRUN, Eurostat) and other bodies (Consumer Barometer), which show an increase in online purchases. This, however, may be due to this research inherent sample limitations (as mentioned by Ghadami, Aghaie & Mohammadkhan, consumers with a high disposable income are less affected by the financial crisis, with regards to their online spending, and the current research sample is characterized by low income levels).

What do Greek users buy online?

112 of the respondents (56%) have purchased at least one time from an online store. This is much higher than Consumer Barometer’s (24%) and European Commission’s (17%) statistics, which is normal, due to the increased representation of younger (and, thus, more tech savvy) users.

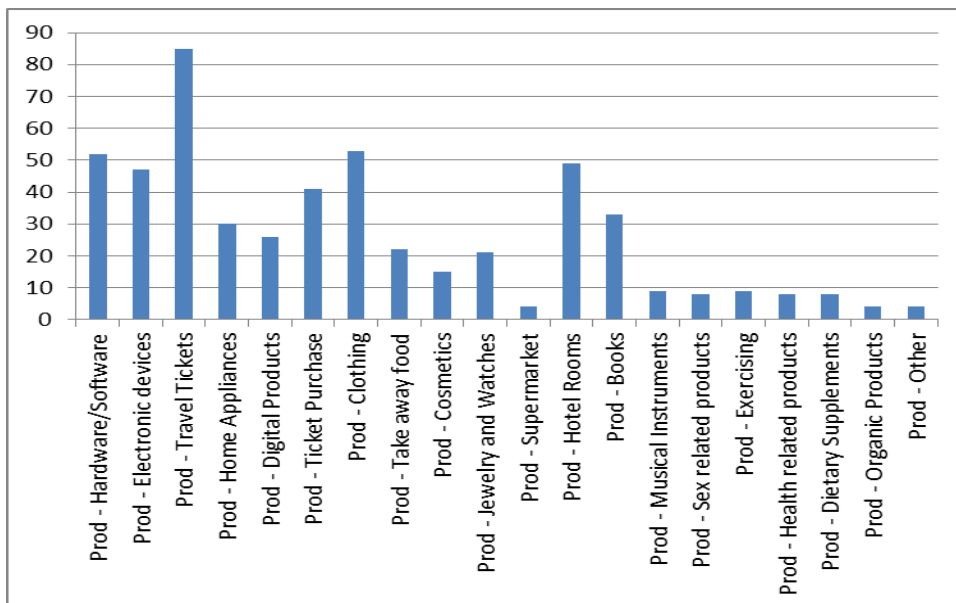


Figure 1: Online Purchases per sector (absolute numbers)

The most popular e-commerce sector appears to be travel tickets, with more than 80 of the online consumers purchasing regularly tickets online (Figure 1). Hotel rooms (the complementary good to travel tickets) are another popular choice, with several retail sectors (hardware/software, electronic devices and clothing) closing the top 5 sectors. With regards to food, 22 respondents purchase take away food regularly and very few have shopped from a supermarket only or have purchasaed dietary supplements and organic products.

As it seems from Figure 2, food related industries present low user penetration (even take away food), when compared to travel and retail products.

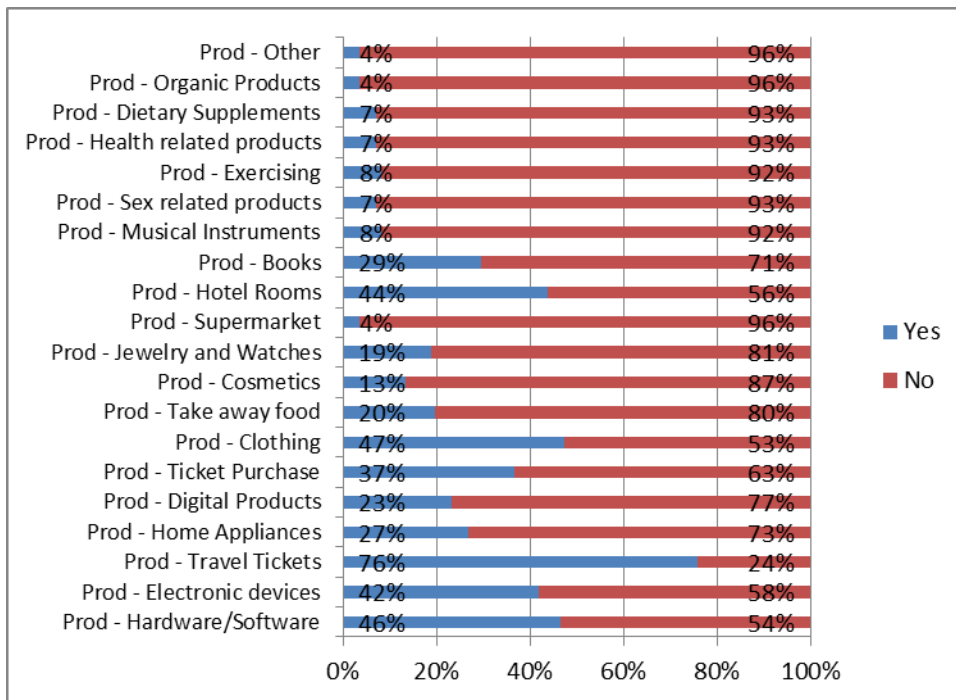


Figure 2: Which products do you usually purchase online?

The results from the research are in line with the information obtained through the literature review, which show low purchase intent towards food products. However, as other markets (such as United Kingdom) indicate, Greek users could move from their research approach towards online food ordering to a more purchase one.

What is the behavior of users purchasing food online?

Continuing with our research aims, we investigate the behaviour of users purchasing food online. We focus mainly on take - away food customers, due to the lack of data.

Chi - square analysis between a) all 3 food choices and the impact of the crisis on disposable income and b) all 3 food choices and the disposable income for online purchases reveals no significant differences. It can be therefore suggested that online food customers present insignificant differences to other online customers, with regards to the impact of the financial crisis on their disposable income. Of course, this does not imply that online food customers are not impacted by the financial crisis.

In order to fully explain online food customers' behaviour, we analyse their preferred payment method, their attitudes towards online and brick and mortar stores and their scores on several online stores' attributes.

Although only 20% of all online customers which responded to the survey prefer to use a credit card, the percentage increases for take away food online customers. At the same time, some respondents mentioned Paypal and prepaid cards as their preferred payment choice, thus suggesting the use of cards for paying for take away food (instead of cash on delivery, as is the case today).

Table 3: Prod - Take away food * Payment Method Crosstabulation

	Payment Method					Total
	Credit	Prepaid	Paypal	Delivery	Other	
Prod - Take away food						
No	16	36	10	25	3	90
Yes	6	5	4	6	1	22
Total	22	41	14	31	4	112

Independent t-tests between take away food and online & brick and mortar stores' attributes reveal three differences within means, with regards to the variable Trial Offline, Price Offline, Payment Offline. Users who have purchased take - away food online have lower mean scores in 3 offline attributes, compared to users who have not. This suggests that online take - away food customers have a rather negative view for prices offline (in line with the recent development of online take - away food intermediaries), as well as for payment methods offline (again, in line with the ability to pay remotely with a credit/prepaid card of Paypal).

Table 4: Online food customers views on online and offline stores' attributes

Group Statistics

		Prod - Take away food	Mean	Std. Deviation	Std. Error Mean
Quality Online	No		3.81	.701	.074
	Yes		3.68	.780	.166
Quality Offline	No		3.86	.787	.083
	Yes		3.73	.883	.188
Trial Online	No		2.28	1.254	.132
	Yes		2.36	1.217	.259
Trial Offline	No		3.99	1.076	.113
	Yes		3.41	1.221	.260
Return Online	No		3.06	1.193	.126
	Yes		3.18	1.006	.215
Return Offline	No		3.86	.815	.086
	Yes		3.59	1.054	.225
Price Online	No		4.12	.832	.088
	Yes		4.05	.950	.203
Price Offline	No		3.21	.880	.093
	Yes		2.77	.973	.207
Time Online	No		3.07	.958	.101
	Yes		3.27	1.420	.303

Time Offline	No	4.02	1.027	.108
	Yes	3.82	1.332	.284
Variety Online	No	4.27	.790	.083
	Yes	4.23	.973	.207
Variety Offline	No	3.53	.837	.088
	Yes	3.55	.800	.171
Safety Online	No	3.39	1.013	.107
	Yes	3.55	1.101	.235
Safety Offline	No	4.01	.828	.087
	Yes	4.18	.795	.169
Support Online	No	3.30	1.054	.111
	Yes	3.05	1.253	.267
Support Offline	No	3.700	.8539	.0900
	Yes	3.864	.8888	.1895
Payment Online	No	3.73	.872	.092
	Yes	3.82	.958	.204
Payment Offline	No	<u>4.02</u>	<u>.924</u>	<u>.097</u>
	Yes	<u>3.41</u>	<u>1.098</u>	<u>.234</u>
Facilitation Online	No	3.34	1.083	.114
	Yes	3.14	1.283	.274
Facilitation Offline	No	3.75	.908	.096
	Yes	3.82	1.053	.224
Comparison Online	No	4.29	.768	.081
	Yes	4.27	1.077	.230
Comparison Offline	No	3.13	1.019	.107
	Yes	2.91	.921	.196
Convenience Online	No	3.94	.952	.100
	Yes	4.36	.658	.140
Convenience Offline	No	3.77	.925	.097
	Yes	3.38	.973	.212

(Attributes in bold and underlined presented significant differences at .05)

When compared against general beliefs regarding online transactions, take - away food customers present marginal (non - significant) differences in mean scores, as compared to online customers who have not purchased take - away food. In general, they tend to have a rather neutral approach towards promotion, after sales service and online security during transactions, and a rather positive stance towards delivery.

Table 5: Online Food Customers Attitudes towards e-commerce

	Prod - Take away food	N	Mean	Std. Deviation	Std. Error Mean
Promotion	No	90	3.33	.687	.072
	Yes	22	3.18	1.006	.215
Delivery	No	90	3.69	.802	.085
	Yes	22	3.77	.612	.130
After Sales Service	No	90	3.31	.830	.087
	Yes	22	3.32	1.129	.241
Security Transactions	OnlineNo	90	3.37	.827	.087
	Yes	22	3.36	1.255	.268

The final question has to do with the reasons why take - away food customers shop online. Independent t-tests find significant

differences to all other online customers in 2 attributes: the ability to shop 24/7 and price comparison. While price comparison is an important remark (thus, justifying the emergence of take-away food intermediaries in the Greek online market, as a way to deal with price dispersion), the extremely positive scores with regards to the ability to shop 24/7 are harder to explain. Other than that, and close to the overall sample's scores, respondents present positive scores with regards to prices and products not in the Greek market, and rather positive averages with regards to convenience, ease of purchase and customized products (the latter at an average which is close to neutral).

Table 6: Internet Pros for Online food customers

Prod - Take away food			N	Mean	Std. Deviation	Std. Error Mean
Internet Pros Prices	-No		90	4.12	.633	.067
	Yes		22	4.09	.684	.146
Internet Pros Convenience	-No		90	3.88	.846	.089
	Yes		22	3.77	.922	.197
Internet Pros Products not in the Greek market	-No		90	4.27	.761	.080
	Yes		22	4.45	.800	.171
Internet Pros Customized Products	-No		90	3.58	.734	.077
	Yes		22	3.68	.894	.191
Internet Pros - Ease of purchase	No		90	3.66	.938	.099
	Yes		22	3.95	.785	.167
Internet Pros - 24/7			90	4.16	.702	.074
Yes			22	4.68	.568	.121
Internet Pros Price Comparison			90	4.32	.700	.074
Yes			22	4.68	.477	.102

(Attributes in bold and underlined presented significant differences at .05)

These scores however do not imply any correlation or causality to take - away food purchases, and shall be viewed only as exploratory results.

Discussion, implications and limitations of the research

The present research sheds light on the impact of the financial crisis on online behaviour and attempts to form an initial picture of the online food customer in the Greek market. Although facing certain limitations, due to its sample consistency (with regards to age and income levels' representation), this research acts as one of the starting points for academic research on the Greek population.

The findings of this research have significant implications, both for researchers and for practitioners. First of all, the present research showed that the reduction of online disposable income will have an effect on online spending. This comes in direct contrast to existing research, which shows rising numbers for the Greek online market. It has to be noted though that the study's limitations, in terms of salary levels' representation lead to a different conclusion: in accordance to Ghadami, Aghaie & Mohammadkhan (2010), financial crises impact online consumption in lower salary levels (as the ones characterizing the present study) instead of higher salary levels.

With regards to online food consumption, results show that take - away food is the first sector, in terms of adoption, with supermarket, organic food and dietary supplements purchases being at extremely low levels. This is in line with existing research (ELTRUN, 2014), which shows that take - away food is the food - related sector with the largest percentage of online customers.

Furthermore, online take - away food customers present lower scores on several offline attributes and quite high scores on online attributes, mainly related to price and payment methods. These results are further confirmed by their extremely positive views on price comparison (as compared to the overall sample) and their preference towards credit/debit cards and Paypal. All these points suggest that online take - away food customers view e-commerce as a way to purchase take - away food easier, at lower prices and with the ability to compare prices. Restaurant owners should therefore be cautious with their prices (as it is easier to compare them), while intermediaries should consider adding card options in their payment funnels (thus, further facilitating the user in completing all aspects of the delivery online).

Future research should focus more on food customers (most preferably to a specific segment, such as online take-away food customers), through a separate research ideally held during a visit in a website, in order to attract a statistically significant sample size for extracting more accurate results.

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