Organic food: Exploring purchase frequency to explain consumer behaviour

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Abstract

In order to identify some barriers preventing expansion of the organic food market, this paper reviews current literature on consumers' buying behaviour. This reveals low levels of actual purchasing, yet fails to provide conclusive evidence regarding the reasons. The aim of this paper is to investigate whether an analysis that 'unbundles' the homogenous organic consumer - based on frequency of purchases - could provide insights into the reasons for this. Results from a demographically representative sample who completed an online survey in Australia (N=1011) indicate that consumers vary in their frequency of organic food purchases, from a relatively small proportion who purchase it regularly - around one in ten, to many more who have never purchased it - around one in four. The trend is towards younger consumers, those on above average incomes, and with higher levels of education being more dedicated to purchasing organic food. This includes students and the unemployed with those in full-time employment. There is a lot of 'churn' in the organic food market, with most who trial it – around one in five, stopping after a relatively short period of time – less than one year. For all organic food consumers concern for the natural environment is the most important motivation, followed closely by health, with product quality being of less importance. From the perspective of increasing sales the key challenge appears to be finding ways to convince existing consumers to purchase more organic products. Persuasive and targeted marketing communications will assist in achieving this, however structural issues in the organic industry, such as its massive diversity; in range in products, geographic spread and size of operations, make it hard to present consistent marketing communication messages.

Keywords: organic food, consumer behaviour, purchase frequency, Australia

Introduction

Achieving environmental sustainability for the global food system has been identified as a grand challenge for this century. Research has identified that one of the greatest threats to sustainability is conventional industrial agriculture due to the high energy and material cost it requires to function (Zepeda & Nie, 2012). There is a growing body of research emerging across various disciplines dedicated to finding the most effective ways to reform the food system. One of the most promising alternatives proposed is the production of food using organic methods (Seufert, Ramankutty & Foley, 2012). An increasing number of consumers are expressing their concerns about personal health and the environmental impact by seeking out organically produced food. Over the last 50 years the organic food movement has developed into the most visible brand for a healthier and more environmentally sustainable food system. Although it has increased in

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size and popularity over recent decades, it still retains a marginal market share at around 1% relative to chemically produced products (Willer and Kilcher, 2011).

In many developed countries consumer's 'basket' of food purchases includes a few organic products (Kesse-Guyot et al., 2013). For example, in Australia it has been reported that two out of every three (65%) consumers purchase organic products, however, in a similar fashion to the global situation, the market share of organic products is around 1% (BFA, 2012). That report provides an analysis of the amount of household food spend - with most (58%) rarely purchasing organic food (spending less than 10% of the budget on organic food), some (28%) being occasional (spending 20 to 50%) and only a few (14%) being regular purchasers (spending more than 50%) (BFA, 2012). Hence the amount of organic food in an organic food buyer's diet varies significantly.

A recent article has highlighted limitations of conclusions from research that bundles a 'once in a year' consumer of organic food along with those for whom it is the majority of their diet (Oates et al., 2012). Whilst achieving a 100% organic diet is theoretically possible, in practice it is difficult and extremely rare, and those authors proposed that having 65% or more being organic is a realistic threshold for research investigating dedicated organic food buyers (Oates et al., 2012).

This paper continues by reviewing literature on buying behaviour of organic food consumers in an attempt to explain the relatively low levels of purchases. It then presents empirical evidence that explores whether purchase frequency can provide helpful insights into organic food buyer behaviour.

The contribution from literature on buying behaviour of organic food consumers

Over the last 20 years, a significant body of research focusing on the marketing of organic food has emerged from countries around the globe (Table 1).

Table 1: Selected journal articles investigating marketing of organic food.

Year	Country	Method	Contribution	Author(s)
2012	Australia	Questionnaire N=318	65% organic food is realistic threshold for dedicated consumer	Oates et al.
2012	USA	Questionnaire N=956	Environment and health are important to organic consumers	Zepeda et al.
2011	Global literature	Review of literature	Most consumers switch between organic and conventional	Pearson et al.
2010	China	Questionnaire N=432	Income and trust are important to explaining organic purchases	Yin et al.
2009	Global literature	Review of literature	Values and attitudes of organic consumers vary	Aertsens et al.
2009	Taiwan	Questionnaire N=470	Health and environment are important to organic consumers	Chen
2007	Global literature	Review of literature	Organic consumers are not demographically homogeneous	Hughner et al.

2005	England	Focus groups and interviews N=181	Motive and barriers vary between products for organic consumers	Padel et al.
2002	Greece	Questionnaire N=1612	Profiles 'not aware', 'aware non buyers' and buyers' of organic food	Fotopoulos et al.
2002	England	Focus groups N=28	Animal welfare is important for some organic consumers	Harper et al.
1998	Netherlands	Questionnaire N=271	Health is important to organic consumers	Schifferstein et al.
1995	Ireland	Questionnaire N=2185	Environment and health are important to organic consumers	Davies et al.

The aim of the present study is to contribute to this literature by investigating the extent to which organic food buyers vary according to their purchase frequency and to explore whether this provides insights into explaining low levels of purchasing.

From a marketing perspective, organic food may be conceptualised as a 'new' product. A number of models, most of which are based on the work of cognitive psychologists and behavioural theorists, are available to assist in understanding consumer behaviour in relation to new products. Within marketing, commonly used models are the 'AIDA' (attention–interest–desire–action) (Strong, 1925) and the 'diffusion of innovation' (Rogers, 1962). The AIDA model assumes that purchase behaviour (i.e.. action) will occur once the consumer is exposed to a marketing communication message and develops an interest in the content of the message which grows into a desire to get the product. In contrast, the diffusion of innovation model discusses consumers' product adoption processes and includes five different stages: awareness, interest, evaluation, trial and adoption. The implication for marketing communications that emerge from both of these models is that each distinct phase could be addressed with a targeted and sequential communication message.

The level of awareness amongst all consumers about organic food would appear to be high in many countries. For example, in Australia it has been reported that in excess of 90% of food buyers know that organic food is produced without the use of synthetic chemicals (Pearson, 2001), and the level of consumer awareness is likely to have increased since this research was completed. However, awareness (or attention in the AIDA model previously discussed) alone does not result in purchase, interest and desire must be added before purchase (or action) occurs.

It is possible that the low purchase rates of organic food can be attributed to the relative inadequacy of information available. It has been reported that, for some consumers, a lack of information about organic food acts as a barrier to them purchasing more of it (Harper and Makatouni, 2002; Yin et al., 2010). As a result, a number of studies emphasise the importance of additional marketing communications that aim to popularise organic foods amongst the target consumer groups (Hughner et al., 2007; Latacz–Lohmann and Foster, 1997; Pearson & Henryks, 2008; Pearson et al., 2007).

In order to develop the most effective ways to target marketing communications, a number of theoretical approaches have been used. These different approaches may

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broadly be classified into demographics, marketing mix variables, product attributes, and values and attitudes.

Consumer demographics is one of the most commonly used analytical tools for investigating organic food purchases (Davies, Titterington & Cochrane, 1995; Fotopoulos & Krystallis, 2002; Padel & Foster, 2005; Thompson, 1998; Wier & Calverley, 2002). These studies provide some evidence that generally wealthy families and 'empty nesters' (being a couple whose children are independent and have left home) tend to the more frequent buyers of organic food. It is suggested that this may be because they have more disposable income (Padel & Foster, 2005). In addition, demographic studies have revealed that women tend to be core buyers of organic food (Davies et al., 1995) although health conscious men are also found to be increasingly interested in organic foods.

Another area of research has investigated organic food purchases from the marketing mix perspective. This approach considers the product, its price, promotion (i.e. using a variety of different marketing communication techniques) and physical distribution. Some of these studies (Pearson & Henryks, 2008; Pearson et al., 2007) have found that the relatively high product prices are important as both a deterrent and an incentive. To some consumers the high price of organic food is indicative of superior quality which is attractive to them, while others are discouraged by higher cost due to priorities set in their budgets.

Other issues revealed by marketing mix studies relate to consumer confusion about which foods are organic and which are not. This is exacerbated by the multiple organic certification organisations many of whom use their own logo or brand on products (Henryks & Pearson, 2010). In addition to identification of the product there is the issue of associations created around the brand or logo. Marketing communications are often used to make emotional appeals in relation to specific product attributes. Such strategies are supported by empirical research, as a number of studies have found that consumers' 'like' of organic food, compared with conventional, increases in the presence of marketing communications providing information on the label about the nutritional information and origin of production (Caporale & Monteleone, 2004; Johansson et al., 1999; Kihlberg et al., 2005; Schutz & Lorenz, 1976). It should be noted that this is not universal across all consumers and all products (Poelman et al., 2008).

The final contribution from the marketing mix approach is that structural issues impact on the consumption of organic food. There is still limited distribution of organic products in some areas, although this is becoming less of an issue as organic products become available in major supermarket chains. The limited range of organic products does, nonetheless, remain an issue. In the long term, political factors such as regulations and government initiated market development activities (Thøgersen, 2010) have been shown to have a major impact on the availability of organic food for consumers.

Product attributes are another theoretical approach that has been used in a number of studies. The results from this area of research have identified that the three most common reasons for purchasing organic foods are, in declining order of importance, seeking healthy food products, concern for the natural environment, and desire for superior food quality (Hughner et al., 2007; Pearson & Henryks, 2008; Shepherd, Magnusson & Sjödén, 2005).

The scientific evidence to support some of these consumer perceptions, such as the superior health claim, is inconclusive (Smith-Spangler et al., 2012). For marketing purposes it is useful to segment consumers who are motivated by perceived health benefits. As such, they have been divided into those who are proactive about their health in contrast to those who are reactive to a negative situation (Pearson et al., 2011). Proactive consumers believe that organic food will have a positive impact upon their wellbeing because it is healthier than conventionally produced food. Conversely, some consumers purchase organic food as a reaction to an adverse health situation, for example, someone who is ill and believes organic food may assist in their recovery.

The desire for high quality, including taste for some products, as a driver of organic food purchases has been found to be less consistent across different products and cultural contexts than health drivers. For example, in the context of Taiwan it has been found that consumers experience of the taste of some organic foods was below the expectations created by conventional products and consequently they considered organic foods as a fraud and inferior (Chen, 2009). In contrast, other research has found that organic foods were perceived to have superior taste for Dutch consumers (Schifferstein & Oude Ophuis, 1998). The reasons for cross–cultural taste discrepancies are explored in several studies (Bourn & Prescott, 2002; Poelman et al., 2008). The primary explanation given for these cultural discrepancies is that different varieties of organic foods and their different growing conditions influence the types of organic food available in different countries. In addition, product freshness and the recipes used could also contribute to different perceptions of taste.

Consumer values and attitudes have also been a theoretical focal point of studies investigating the marketing of organic food. These studies are based on the assumption that the motives for consumer intentions emerge from a small number of relatively stable values, which in turn form attitudes. The linkage between values, attitudes and intentions is constructed through the Theory of Planned Behaviour (TPB), and it derivatives, along the chain of values–attitudes–behaviour. The current literature in this area is inconclusive, with some research finding a positive relationship between values and attitudes that support organic food and purchase intentions (Aertsens et al., 2009; Chen, 2007; Lodorfos & Dennis, 2008; Michaelidou & Hassan, 2008) whilst others did not find this (Chen, 2009; Shepherd et al., 2005; Vermeir & Verbeke, 2008).

A personal value, being a stable construct, is unlikely to shift as a result of any marketing communication messages and may be seen to be one of the antecedents to purchase decisions (Aertsens et al., 2009). The specific personal values (also referred to as attitudes in some of the literature, and in the context of this paper are synonymous with product attributes previously discussed), that have been identified as being important to organic food buyers are those relating to the individual (e.g.. longer life, personal health, satisfaction), family (e.g.. family health and well–being) and society (e.g.. environment, rights of the animal and their welfare) (Makatouni, 2002). Thus, marketing communication that focuses on these values may increase purchases of organic food.

In summary, the literature fails to explain consumers' relatively low levels of organic food purchases. Consumers appear to prefer organic foods for several reasons, such as health and environmental concerns. However, consumers' actual purchases of organic food remain low. This paper continues by providing information using the frequency that

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consumers purchase organic products as a variable to explore differences amongst them.

Methodology

This paper reports the findings from one section of a larger Australian study investigating the role of marketing communications in consumer satisfaction with organic foods. A structured questionnaire was developed and revised by the authors of this paper. This included a pre-test with 12 respondents to assess its suitability, readability, and time taken for completion. The questionnaire was standardized and undisguised for all the respondents.

A pilot study was conducted by a research agency with a sample of 37 subjects. Following discussions between the authors of this paper and representatives of the research agency who were engaged to collect the data, minor adjustments were made. These included decreasing its length to reduce response fatigue (Burchell & Marsh, 1992) as well changing the wording in several questions for greater clarity.

The online survey method was considered most appropriate due to its advantages including access to unique populations and ability to accommodate large sample sizes at relatively low costs in a short amount of time (Wright, 2005). A total of 1011 respondents were recruited by a market research agency to provide a demographically representative sample (in terms of age, gender and geographic location) of the Australian adult population. The only qualifying prerequisite for respondents was that they had to have purchased organic products sometime in the past. Data was collected during November 2012.

Results

The specific areas investigated are organic consumer demographics, length of time they have been purchasing organic products, and rating of organic food attributes that are important to them.

Purchase frequency

The frequency of organic food purchases varies significantly, from a relatively small proportion of consumers (one in ten) who purchase it ‘Regularly - at least once per week’ to many (one in four) who ‘Have never bought’ it. In between these extremes there are those who purchase organic food ‘Often - around once per fortnight’ (one in five), ‘Occasionally - around once per month’ (one in every three), and those who have ‘Stopped buying’ it (around one in ten) (Figure 1). Identification of this latter group – that is those who have stopped buying – is a contribution to the literature and offers an area for further research to gain understanding as to why this has happened, and the implications of this for marketing organic food.

In summary, based on our sample, just over half (two in every three) consumers of the total population are currently purchasing organic food (ranging from regularly through to occasionally).

Demographics

The following results compare different purchase frequency groups based on demographic variables, commencing with those that show a significant difference prior to

mentioning those where this is not the case. As previously noted, this sample has been selected to be demographically representative of the Australian population.

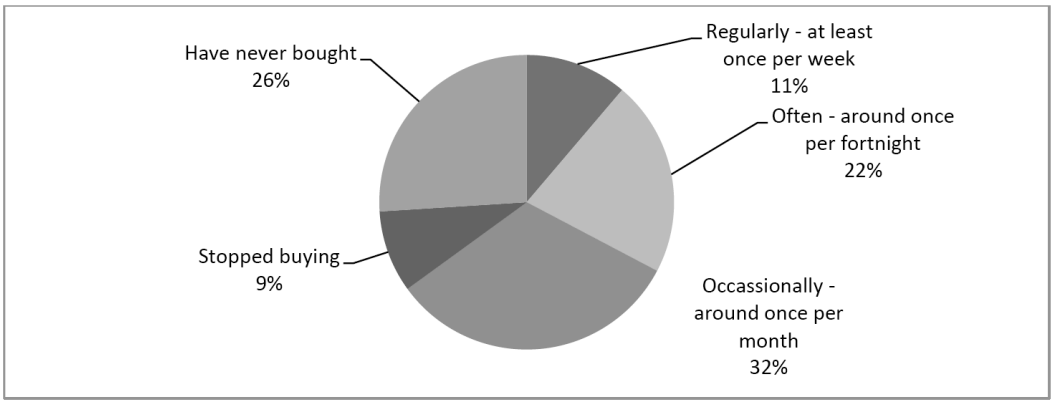

Figure 1: Frequency of organic food purchases (Source: Results from Questionnaire for those at various levels of purchasing organic food including having stopped buying N=1011, and BFA 2012 for those who have never bought organic food). (At a 95% confidence level these differences are significant $\chi 2=313$).

Age

There is a general trend towards younger consumers being more dedicated to purchasing organic food (Figure 2). For example, many (over 60%) of 20 to 29 year olds purchase 'Regularly' or 'Often' which reduces dramatically (to around 30%) for 70+ year olds. These results are in contrast to other studies where organic food buyers tend to be dominated by the older age categories (Davies, Titterington & Cochrane, 1995; Fotopoulos & Krystallis, 2002; Padel & Foster, 2005; Thompson, 1998; Wier &Calverley, 2002).

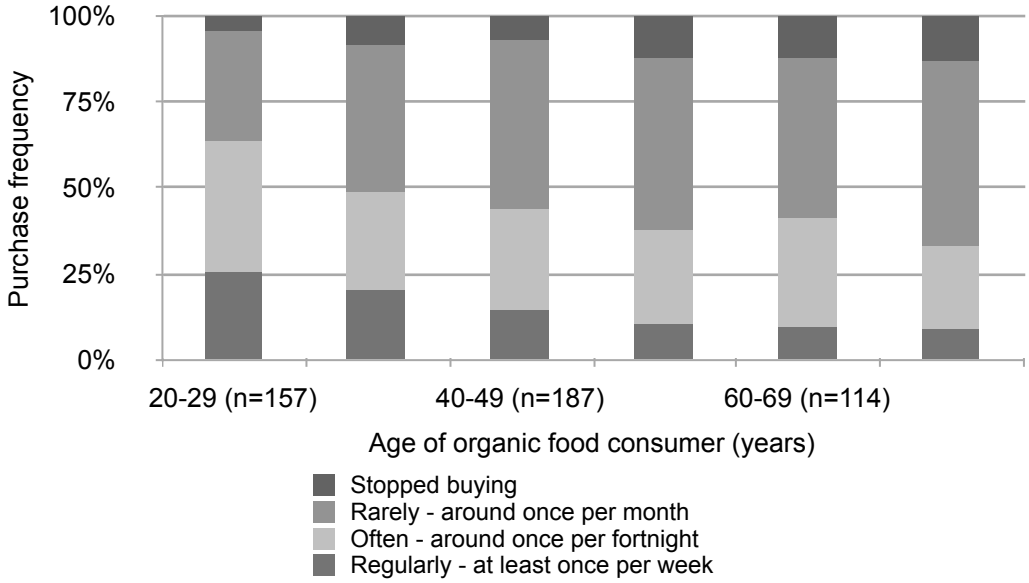

Figure 2: Frequency of organic food purchases in relation to Age (Source: results from Questionnaire. N=1011). (At a 95% confidence level the only significant difference for 'Regularly' or 'Often' is age 20-29 years $\chi 2=18.8$).

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Income

Low income households are less likely to purchase organic products (the lowest category in this research was below AU$45 000 which is equivalent to the average household earnings in Australia (ABS, 2011)). For example, there are significantly less low income households (just under 40%) in the below $45 000 category who purchase 'Regularly' or 'Often' than in the higher income categories (just under 50%)(At a 95% confidence level χ^2=3.9). These low income households are also the ones most likely to have 'Stopped buying' (15%).

Purchase frequency is consistent for all household income levels above the average household earnings. These results support the often implicit assumption that organic food is purchased by higher income households, as they are more readily able to absorb the generally higher price of organic products (Padel & Foster, 2005). However, it does raise an unanswered question as to why purchase levels do not continue increasing above the average income.

Employment

'Students' have the highest purchase frequency ('Regularly' or 'Often' being over 60%). Those who are 'Self-employed', in 'Full-time employment', or 'Unemployed' having the next highest purchase frequency ('Regularly' or 'Often' being around 50%) (Figure 3). Identification of the relatively high purchase frequency amongst 'Students' and the 'Unemployed' is a contribution to the literature and would benefit from further research that explored the reasons for this.

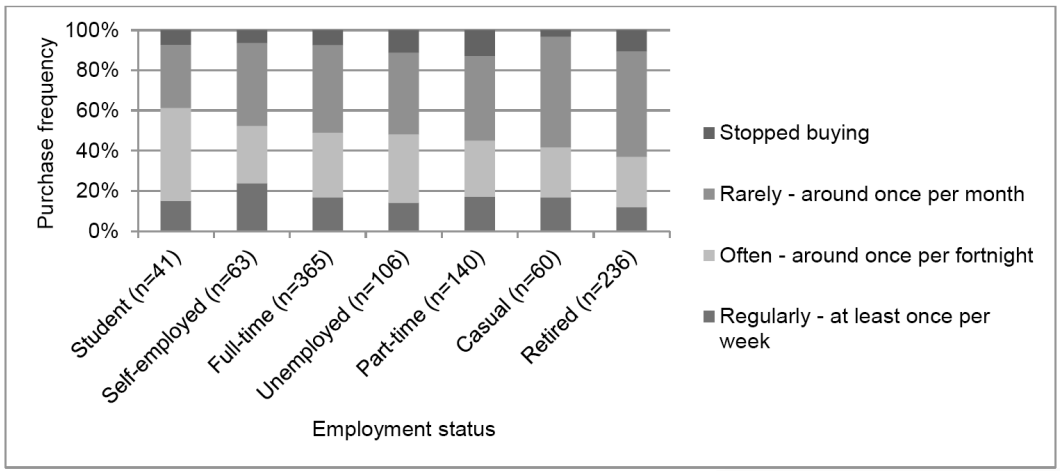

Figure 3: Frequency of organic food purchases in relation to Employment status (Source: results from Questionnaire. N=1011). (At a 95% confidence level none of the differences for 'Regularly' or 'Often' is significant χ^2=1.8).

Qualifications

Higher levels of education are associated with higher levels of purchasing organic food (Figure 4). For example, over half (just under 60%) with 'Post graduate' qualifications purchase 'Regularly' or 'Often' in contrast to only one third (under 40%) for those without formal qualifications.

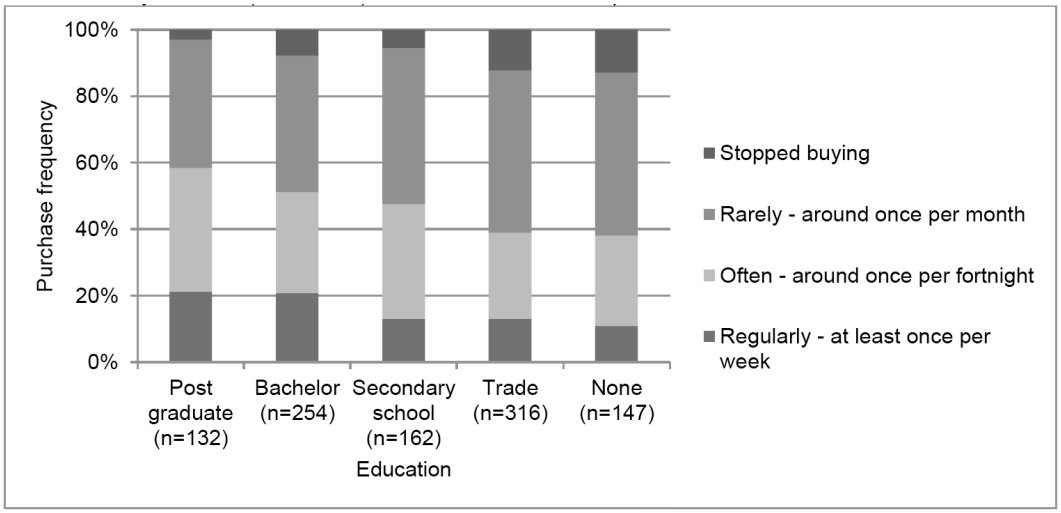

Figure 4: Frequency of organic food purchases in relation to Education (Source: results from Questionnaire. N=1011). (At a 95% confidence level the only significant differences for 'Regularly' or 'Often' are between 'Post graduate' and 'Trade' χ^2=20, and 'Post graduate' and 'None' χ^2=10).

Gender

Gender did not have a significant difference in terms of behaviour around how often consumers purchase organic products (at 95% confidence level χ2=2.5).

Living arrangements

Having children, and/or having a partner did not have a significant difference on the frequency of organic food purchases (at 95% confidence level χ2=1.1).

Length of time purchasing organic food

A solid core of organic food buyers (almost half, n=442, out of a total of N=1011) reported purchasing for a long time ('3+' years) (Figure 5). Many organic food buyers (almost one in five) are new entrants having being purchasing for less than one year.

Most of these new entrants are trialling organic products (as the purchase frequency for over two out of every three of them is 'rarely') and some (10%) have already stopped purchasing organic products. The remaining new entrants contribute to a net increase in the total number buyers (estimated to be between 2-5% per year in Australia - derived from BFA, 2012) as both the population and market share of organic products increases gradually.

Those who continue purchasing organic food after their first year, on average, increase their purchase frequency and this remains constant in subsequent years (Figure 5). For example, only (just over 20%) of those the new entrants (purchasing for '<1 year') are in the 'Regularly' or 'Often' category, in contrast to around half (ranging from 50-55%) of consumers who have been purchasing for a year or more being 'Regularly' or 'Often'.

Organic food attributes that are important to consumers

Concern for the 'Environment' was the most important motivation, followed closely with 'Health', and 'Quality' being of less importance (For example with consumers who purchase 'Regularly' the 'Rating' of 'Environment' is 60%, 57% and 48% respectively)

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(Figure 6). This is consistent across all levels of purchase frequency. Insights from an analysis of the reasons for purchasing organic food, as perceived by consumers, suggest that continuing to focus on positive environment and health messages in marketing communications will be most effective in increasing sales.

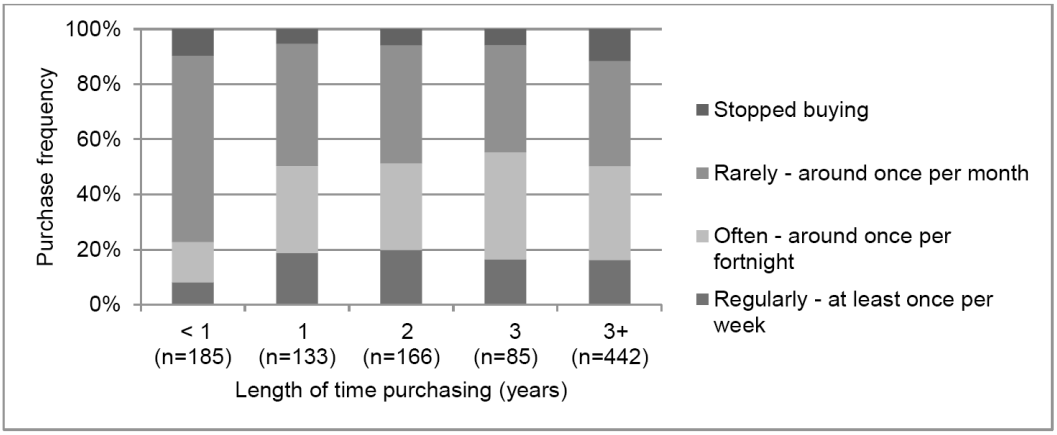

Figure 5: Frequency of organic food purchases in relation to Length of time purchasing (Source: results from Questionnaire. N=1011). (At a 95% confidence level significant differences exist for 'Regularly' or 'Often' between '<1' and all other year categories $\chi 2=45$).

Although these three attributes maintain the same ranking across all levels of purchase frequency, as it declines, so does importance of these attributes. This is consistent with the assumption that higher purchase frequency results from a higher importance being placed on the attributes that differentiate organic products from alternatives sourced from chemical production methods.

The fact that those who have 'Stopped buying' organic products rate attributes higher than those who purchase 'Rarely', but below those who purchase 'Often', suggests that other factors, such as changing life circumstances which may result in shifts towards issues such as less time or more difficult access to organic food, are the dominant drivers for them.

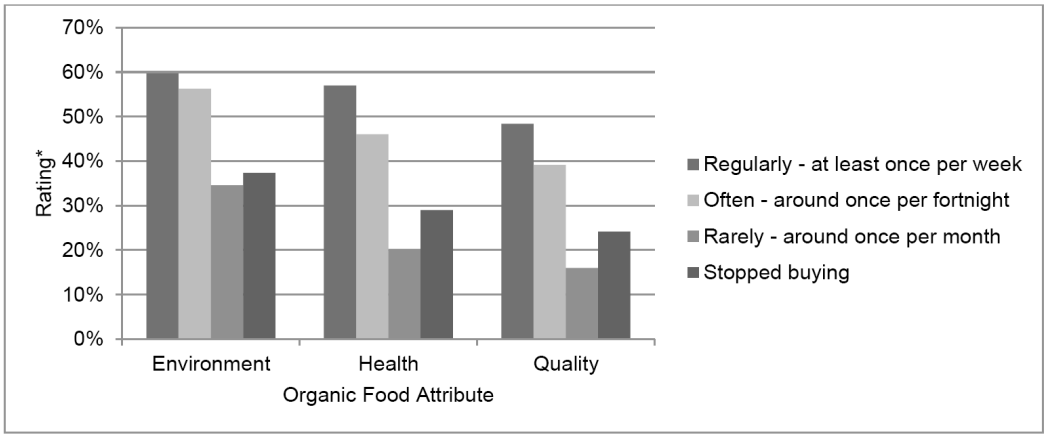

Figure 6: Frequency of organic food purchases in relation to rating of organic food attributes that are important to consumers (Source: results from Questionnaire N=1011).
*Based on percentage of respondents who 'strongly agreed' or 'agreed' that the attribute was important on a seven point scale that spanned to 'strongly disagree'. The specific questions were: Organic food is good for the environment, Organic food enhances my health, Organic foods have superior quality.

Discussion

Expansion of the organic food market over recent decades can largely be attributed to consumers choosing it as an expression of their concern for their own health and a heightened awareness over the impact of the food system on the environment. Other factors such as increased consumer affluence, greater product diversity and availability have assisted consumers to make this choice. Despite overall increases in organic food consumption, most consumers remain resistant to purchasing large amounts of it. Although consumers have a positive attitude towards organic food, they only purchase it some of the time. Around two in three consumers purchase organic food, yet its market share is only 1%.

The frequency of organic food purchases varies, with two in every three of the population currently purchasing organic food. However, only a relatively small proportion of consumers (one in ten) are purchasing it a least once per week. A similar proportion (around one in ten) have stopped purchasing it during the past year, which offers an area for further research aimed at gaining an understanding of the implications of this for marketing organic food.

In relation to the demographic profile of organic consumers there is a general trend towards younger consumers, those on above average incomes, and those with higher levels of education being more dedicated to purchasing organic food. The inclusion of students and the unemployed, with those in full-time employment, as consumers who purchase organic food on a regular basis would benefit from further research to understand the role of organic food in their lifestyles.

Although organic food sales are maintained by a core of dedicated long term consumers, there is a lot of ‘churn’ in the organic food market, with most who trial it stopping after a relatively short period of time.

Concern for the natural environment is the most important motivation to organic food consumers, followed closely with health, and superior product quality being of less importance. Hence continuing to focus on these in marketing communications may be most effective in increasing sales.

Foremost, the findings indicate that the key challenge for increasing organic food sales will be to convince consumers of the superior ‘value’ of organic products. Results show that people are consuming organic products across most demographics, irrespective of education or profession. Higher purchase frequency across all demographic categories may be achieved if greater importance is placed on the positive attributes that differentiate organic from conventional products, namely, health and environment.

The findings also draw attention to a number of factors that may be preventing higher purchase frequency. Results showed that a noticeable number of consumers (around one in ten) had bought organic food in the past but have stopped. Further research could be conducted to discover why this is the case. It is likely that this will include those reasons previously identified for non-purchase being limited distribution, intermittent availability and high prices, however, further research may identify other factors that explain this change in behaviour.

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There are a number of methodological issues associated with analysing the market for organic products that may distort results. In particular, most studies, including this one, rely on consumer self-reporting to gather data, rather than observation of actual purchases. Hence these results show what consumers report that they do, rather than what they may actually do.

Conclusion

This paper provides insights into organic food consumer behaviour by 'unbundling' the assumed homogeneous organic consumers into segments based on their purchase frequency.

The findings show that, from a demographic perspective, consumers who are young, highly educated, and students are most likely to be regular purchasers of organic foods. Conversely there is a reduction in the frequency of organic food purchases amongst older consumers and those with lower levels of education.

Recognition and pro-active management of these findings could contribute to more effectively targeted research into consumer food purchasing motivations, and subsequently the development of more sophisticated marketing strategies for the organic food industry. However with its diverse constituency, ranging from global corporates through to local production and consumption, it is going to be a challenge for the organic sector to achieve the coordination required to develop these. Hence activities are likely to continue to be led by larger commercial organisations and government bodies.

And finally, it is likely the organic food consumers will provide fertile ground for further research as industry players seek market growth opportunities, and Government agendas aim to achieve human health and environmental sustainability within an informed consumer choice policy framework.

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