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Organic food: What we know (and do not know) about consumers

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Abstract

This paper reports on the latest contributions to over 20 years of research on organic food consumers. There is a general consensus in the literature on the reasons why people buy organic food. However, there is also a gap between consumers' generally positive attitude toward organic food and their relatively low level of actual purchases. Product differentiation based on intangible features, such as credence attributes such as organic, in fast-moving consumer goods categories is enjoying rapid growth. However, there are many difficulties with research in this area, including the errors inherent in research that relies on consumer self-reporting methodologies. Further, in relation to organic food, there is a divergence between consumers' perception of its superior health features and scientific evidence. Fresh fruits and vegetables are of vital importance to the organic sector as they are the entry point for many customers and account for one-third of sales. Further, although there is a small proportion of dedicated organic food buyers, most sales come from the majority of buyers who switch between conventional and organic food purchases. This paper identifies the practical implications for generic organic food marketing campaigns, as well as for increasing sales of specific products. It concludes with suggested priorities for further research.

Key words: organic food, consumers, research, purchases, segmentation

Introduction

Organic food has been analyzed from many perspectives and in many countries. It contributes to an emerging paradigm for food production which relies on biology, ecology and sociology rather than more one-dimensional chemical and physical management approaches[1]. Building upon over 20 years of research, there is now a substantial body of information on how to market organic products. Recent examples include the studies by Hughner et al.[2] and Pearson and Henryks[3]. In addition, research has been completed, which contributes to our understanding of specific aspects of how to market organic products. This includes consumer behavior for local organic foods[4] as well as consideration of 'low input' and organic foods[5] through to how the organic quality assurance system may be used to develop a marketing strategy[6] and decision-making processes for organic food consumers[7].

As this proliferation of previously mentioned articles indicates, understanding human behavior in the context of food purchases remains a frontier for scientific enquiry. While it is generally accepted that our food habits are largely determined by attitudes that are acquired in childhood, and that these evolve due to changing circumstances and experiences, it is the diversity of individuals, the multiplicity of products which, when combined with the enormous number of purchases over a lifetime, makes understanding food purchases so challenging[2]. Further, purchases of relatively low-value, low-involvement products from multiple locations add further challenges[8], although it is interesting to note that sales of many of these products which are differentiated with intangible features, such as organic and Fair Trade, which are both examples of credence attributes, are enjoying much higher growth rates than the main market. Credence attributes are difficult to judge even after purchase[9] (such as environmental credentials) in contrast to search attributes which may be evaluated prior to purchase (such as price) and experience attributes which may be evaluated after purchase (such as taste)[10].

This paper continues by reviewing the major areas in which research has contributed to our understanding of the food supply chain and the implications that this has for organic food. This is followed by identification of what we

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know about organic food consumers in relation to why they buy organic food, who they are and what they purchase.

Food Distribution

In terms of increasing our understanding of food purchases, a number of valuable insights have been provided by investigating the food supply chain. At the global level, the organic industry is estimated to be in excess of $US40 billion[11]. However, at the national level, supermarkets tend to dominate the distribution of food in most developed countries. For example, in the UK, four chains account for around 80% of sales[12], whereas in Australia only two supermarket chains control a similar percentage of the market. The supermarket business model relies on high sales levels at relatively low profit margins. Their customer proposition focuses on convenient 'one stop' shopping from their wide range of products, often in excess of 30,000 in one store, at relatively low prices, with the added benefits of long opening hours and ease of parking. Many supermarket chains offer a wide variety of organic products, including private and own brand organic labels. There is also significant expansion in the range of organic products available in supermarkets[2,4]. This includes processed products, such as organic tomato sauce and organic frozen pizzas. These provide more choice for existing consumers of organic products as well as offering the organic option to mainstream customers for whom convenience is important. However, supermarkets are not the only retail outlet in the food supply chain.

Non-supermarket retail outlets, or complementary retail outlets, often referred to in a somewhat dismissive manner as alternative retail outlets, also supply food, and perhaps more importantly, are an area in which many food supply chain innovations are occurring. These outlets appear to be emerging from community level interest in creating food-supply chains that are resilient as well as supporting environmental, social and economic goals and are often seen as 'local' food networks[13,14]. Many of these appear in different formats, including organizations that use co-operative business structures, independent outlets, farm shops, farmers, markets, community-supported agriculture schemes and productive gardens. Further, many of these non-supermarket retail outlets provide organic food. However, all the previously mentioned retail outlets are not the only sources of food; they only supply the food that is eaten 'at home', whereas the food service sector supplies all the food that is eaten 'away from home'.

The away from home market includes take-away food, food eaten in restaurants and pubs as well as institutional food such as in schools, hospitals and other government organizations. Some of these specialize in organic food, such as an organic restaurant or pub, or include a particular organic item on their menu, such as organic beef.

Although the national profile of food distribution is of interest, food is purchased by individuals who live and work in a particular area with its own, often with a somewhat unique, character. Thus, there are regional differences in where food is purchased and what food is available. Hence, individuals, as long as they have the financial capacity and a car, are confronted with an array of choices, often of bewildering proportions, but they are still limited by what is made available to them in their immediate surroundings.

Research on Organic Consumers

The fact that organic food exists and is available for consumers is as a result of a long series of events generally thought to have commenced during the 1940s and 1950s. There were separate initiatives in different countries. These included 'ecological agriculture' in Switzerland, which is associated with the writings of the Muellers, Rudolf Steiner's teachings on 'biodynamic agriculture' in Germany and Austria, Jerome Rodale's writings on soil and health in the USA, and Albert Howard and Eve Balfor's work in the UK on what came to be known as 'organic farming'. During this time, numerous organizations were formed, many of which still exist today. These include charities such as Garden Organic and the Soil Association, the latter being the largest certifier of organic products in the UK.

The development of the organic movement continued during the 1960s and 1970s when there was increasing consumer activism associated with concern about man-made changes to the natural environment. This era is perhaps epitomized in the work of Rachael Carson and her evocatively titled publication 'Silent Spring'. During this time, the International Federation of Organic Agricultural Movements (IFOAM) was formed and has continued to provide a forum for the global coordination of the movement. However, it was not until the 1990s that organic received formal recognition as a food production system by many national governments. It was at this point that it started to move from the fringe into a significant activity in the mainstream food industry. In addition to arriving on the list of possibilities for the mass population, academic research on the organic sector also started to appear. There is now a significant body of international research which includes comparisons of many facets of organic farming, including crop production, biodiversity benefits and soil health[15,16] as well as research on the demographics and motives of organic consumers[2]. The latter paper provides a comprehensive review of the complexity of this type of research and the specific contributions from major studies that have explored the reasons why consumers purchase organic food, as well as their demographic profile. Both of these will be reviewed prior to considering what organic food is actually purchased.

Why do people buy organic food?

The consensus of international research provides a very clear picture of the reasons why people buy organic food. Although there may be differences in the ranking of the

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important issues due to the specific cultural and demographic factors, the main reasons, in order of priority, are: personal health; product 'quality'; and concern about degradation of the natural environment. These were identified some time ago[17] and have consistently been supported by subsequent research[2,18].

Although consumers consistently cite health as a reason for purchasing organic food, this perception is not consistently supported by scientific research[19,20]. The Food Standards Agency in the UK has recently reported on a meta-analysis of the scientific evidence that examines the potential human health benefits from consuming organic food[21]. The main issue under investigation in this report is whether there are measurable benefits from consuming organic food. The benefits of organics are considered to be the vitamins, minerals and other health-giving properties that they embody, whereas the perceived negative aspects of non-organic food include the presence of artificial chemicals used in the production, processing and storage of the product. Although it is considered to be contentious, this report concluded that there is currently 'no evidence of a health benefit from consuming organic compared to conventionally produced foodstuffs'[21] (p. 2). The research linking organic food composition to direct health benefits tends to be inconclusive partly because of the difficulty of undertaking this type of research. The confounding issues include the greater intrinsic variability in organic systems, which make it difficult to draw conclusions from short-term comparisons of paired organic and non-organic farms. As a consequence, production systems often need to be monitored at the same sites over a number of years to achieve significant results[16,22]. Furthermore, the specifics of the actual management or husbandry *per se,* rather than the strict adherence to the requirements of organic certification can have a major influence on the quality of the organic product[23]. And finally, different crop varieties vary in their response to different environmental conditions—the Genotype by Environment ($G \times E$) effect[24]—which also influences product quality and is substantially independent of the type of production system, whether organic or otherwise.

Further to the variation in the health-enhancing aspects of the content of organic products, there are issues in relation to other aspects of an individual's diet. For example, even if the organic food has higher levels of the positives, an increase in their consumption will not necessarily add to an individual's health if one already has them in sufficient proportion. On the other hand, just because a chemical is artificial, or man-made, does not automatically mean that it is dangerous to human health; there are many chemicals that occur naturally that are extremely toxic to humans. Also the level of chemicals in all food products is strictly monitored by the national governments in most countries through a system of maximum residue levels (MRLs). Although organic food may have lower MRLs for many chemicals, there is minimal evidence to suggest that this is necessary for human health.

The health motivation can be seen as a proactive measure, or as a reaction to an adverse situation. A proactive purchaser would be someone who believes that organic food is healthier, and that these foods can have an impact on their health. One example would be when the parents of babies and young children, often concerned about 'pure' and 'natural' foods, become interested in organic food. In a similar manner, health as a purchase motivator has been found to take on greater significance as people age[25]. Others purchase organic food as a reaction to an adverse situation. For example, they may be faced with a serious illness and in the journey of exploring treatments for their condition they turn to organic food in the belief that it will aid their recovery.

The second important issue is quality. The product quality parameters that consumers generally relate to organic food, particularly fresh fruits and vegetables, include that it tastes better and that the supply chain delivers a fresher product[3]. But the quality of a particular product is subject to many variables. Hence, product quality is problematic as it varies according to the individual consumer's expectations and this often relates to a particular product, purchased at a particular time and for a particular use. Thus, in a manner similar to health as previously discussed, the link between any production system, organic or otherwise and product quality is tenuous.

And finally, the third major reason mentioned for purchasing organics is concern for the environment. There is evidence to support the fact that organic farming is less damaging on the natural environment[15,16]. Indeed, the environmental benefits of organic production methods are the rationale given by the government in the UK for providing additional financial assistance to organic farmers[26].

The other less commonly mentioned reasons why people buy organic food include animal welfare[27–30] and fashion[2,31]. Concern about animal welfare is more important for particular organic products and countries where intensive animal farming systems are commonly used. This includes chicken meat and eggs, pork products and, to a lesser extent, beef and dairy products.

Who buys organic food?

From some perspectives, the results from the past 20 years of investigation into who buys organic food have been disappointing. The desire to identify the characteristics of organic food buyers within the mass market is understandable and the majority of the literature has concerned itself with demographics as a segmentation variable; however, from this perspective, a clear profile has remained elusive. This research indicates that organic food buyers exist across all demographic segments, with some small trends being evident. In particular, they may have higher levels of education, be more affluent, be women and have young children. In addition, they may be more likely to grow some of their own fruits and vegetables, and be

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vegetarian[32]. As one report pointed out '... focus group study confirms that only looking at gender, income, education, and family/household size may yield contradictory results because people's motivations are complex'[33] (p. 392). Hence, it is relevant to look to other ways of identifying organic food buyers.

Some studies have used multiple segmentation parameters. These include combinations of attitude and behavior, which resulted in segments based on their level of 'green' purchasing behavior—from indifferent to very green. Other examples of behavioral segmentations include those based on the level of awareness—unaware, aware non-users and aware users[34] or level of commitment—complacent, conceivable and committed[35]. Another segmentation variable is that of purchase frequency—ranging from heavy to light users. For example, in the UK, around 70% of buyers claim to purchase organic food; however, with annual sales of £2 billion[36] which equates to a market share of around 1.5%, it is obvious that only a very small proportion, much less than 1%, buy a large quantity on a regular basis and hence most only buy small amounts on an irregular basis. Thus, the majority of consumers move between organic food and its conventional counterpart and have been labeled as switchers[37].

There are some important methodological issues that have hampered the usefulness of this segmentation research. One issue is that of the choice of retail outlet which 'is a critical variable in explaining purchases of organic foods'[38] (p. 1115). For example, the products available in a supermarket tend to differ from those in a food cooperative. It is important to recognize that food consumers often use more than one retail outlet. For instance, on a weekly basis, they may have a delivery from an organic vegetable box scheme, go to a food cooperative and then fill all the missing purchases on a trip to the supermarket. Thus, consumers go through a two-stage decision process, first they select a retail outlet, and it is only when this choice is made that they make the second choice that of deciding between organic and conventional products. And importantly, their choice is always limited by what is available to them, which, in relation to individual products, is referred to as 'choice editing' by retail outlets[39].

Another methodological issue is that most of the research is based on buyers' self-reporting of what they think they purchase, or on their intentions in relation to future purchases, both of which are notorious for being inaccurate. A gap has been identified between positive attitudes toward organic food and actual purchase behavior[30]. This gap was explored by others[40] who concluded that consumer decision-making is extremely complex and that further research is needed to explore the trade-offs that they make. Consequently, a positive attitude toward organic food does not necessarily translate into purchases of it. Perhaps this is because some people want to be healthy and do the 'right' thing but forfeit this as they are unable to justify the higher price and reduced choice of many organic products, and hence conventional food is given priority in their busy lifestyle. Some research has explored how this gap could be closed by investigating the reasons why consumers do not purchase organic food. Again there is a general consensus in the literature with the main deterrents being its generally higher price and its limited availability[2].

What organic food is bought?

Research investigating the actual purchases of organic food has confirmed that there is a significant gap between stated and actual buying behavior. Research from Germany[41] compared what organic food consumers thought they purchased, based on self-reporting questionnaires, with what they actually purchased, based on supermarket scanner information. In addition to confirming that there is a gap between what buyers say they do and what they actually do, the results identified an unexpected trend. Buyers who purchase organic products more often (such as several times per week) are likely to understate their purchase frequency (11% stated compared with 18% actual). In contrast, those who purchase less frequently (such as once a month) are more likely to overstate their purchase frequency (19% actual compared with 11% stated).

This identification of actual purchases of organic food has been facilitated by recent developments with the use of barcode technology combined with customer loyalty cards. Historically, organic food was only available in selective locations, such as health food stores. However, supermarkets have gradually increased their number of organic product lines in response to changing consumer preferences and the development of the organic supply chain. Now it is possible to purchase an organic variant for nearly all products in most supermarkets in developed countries. Further, an individual's actual purchases can be collected by monitoring the product barcodes at the checkout and linking this to their loyalty card. Although this is a massive improvement in terms of understanding organic food consumers, it does not capture the full picture. This information does not include food purchased outside the supermarkets, such as from complementary retail outlets, nor does it capture purchases from the food away from home sector, some of which may be organic. These limitations are in addition to the fact that some supermarket shoppers do not have loyalty cards, many of whom are likely to be organic food buyers.

A recent report[42] provided an insight into organic fresh fruit and vegetable purchases in one leading UK supermarket chain. Fruits and vegetables are extremely important to the organic sector. In addition to being a key gateway product (i.e. the first organic product purchased by many consumers), they also have the largest share of any product category. For this supermarket, they accounted for around one-third of all their organic food sales.

These findings[42] support other research which states that the majority, in this case 75%, of customers purchase

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organic products. However, only a small proportion of these customers account for majority of the sales. In another report[26] it was stated that 84% of the sales of organic products come from only 23% of customers. These results are remarkably consistent with the Pareto Principle, or 80/20 rule, which, when applied to business, states that the majority of sales will come from a minority of customers. Thus, organic fresh fruit and vegetable purchases are not habitual for most customers as they only make sporadic purchases and hence, as previously mentioned, are seen as switchers. Moreover, organic consumers are 'hampered by the lack of consistent, objective (scientific) evidence of the benefits (taste, health, environment) which leaves the majority of consumers at best confused and at worst sceptical'[42] (p. 6).

In another recent report[43], the Lifestyle of Health and Sustainability (LOHAS) profiling was used to create segments in the organic food market ranging from Leaders through to Learning, Learners and finally Laggards. These intuitively appealing descriptions were used for exploring who purchased what organic food from where, and identified, among other things, that most Leaders purchase organic products in complementary retail outlets whereas those in the Learning category use supermarkets.

Hence, while these research reports continue to contribute to our understanding of those who buy organic products, a comprehensive profiling of these buyers remains elusive. Although organic food comes from a clearly identifiable production system, and this fact is communicated to consumers via product labels, its uniqueness is not dominant in the context of food purchase decisions, which involve complex trade-offs among numerous product attributes. Thus, the choice of any food type, including organic, 'is a complex issue that is unable to be explained using a single variable'[44] (p. 139).

Conclusion

The challenge of understanding the complexity of organic food consumers has benefited from numerous research activities. There is a general consensus in the literature on the reasons why people buy organic food. These have remained stable over time, and, although there are some slight differences between countries and for particular products, the main reasons, in order of priority, are: issues associated with personal health; product 'quality'; and concern about degradation of the natural environment. However, interestingly, there is a gap between consumer perception of the superior health features of organic food and the scientific evidence. There is also a gap between those consumers who have a positive attitude toward organic food and their relatively low level of actual purchases. Again, there is a general consensus that this is because of the higher price and limited availability of organic food. The results from investigations into who buys organic food have been disappointing, as they remain elusive to the commonly used market segmentation tools such as demographics. However, research has identified that most consumers buy organic, but only some of the time, and hence they switch between organic and conventional on a regular basis.

A new contribution to our understanding of organic food consumers is emerging from research that captures actual purchases in supermarkets by linking barcode information to customer loyalty cards. These results highlight the errors inherent in research that relies on consumer self-reporting methodologies while they do provide support for other important issues. They show that fresh fruits and vegetables have a relatively high market share that is well above the average of all organic products and, with continuing relatively higher growth rates, this is likely to continue. They also show that a relatively small number of products make up a large percentage of sales, as well as supporting the suggestion that only a relatively small number of consumers purchase on a regular basis. Thus, as previously mentioned, most organic consumers are switchers.

In conclusion, consumer research remains a fertile area for further investigation as researchers grapple with its inherent complexity. And organic food does not appeal to a coherent segment of the market as 'beyond the two poles of the converted (regular consumers) and the sceptical non-consumers who would never consider buying organic, there is a large body of consumers who buy organic food on a more occasional basis, but lack the knowledge, financial resources, conviction, or simply the inclination to buy more regularly'[40] (p. 623). With this in mind, further research on the role that food plays in consumers' lives, along with investigating their purchase context, is required to complete our understanding of organic food consumers.

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References

1. Doran, J.W., Kirschenmann, F., and Magdoff, F. 2007. Balancing food, environmental and resource needs. Renewable Agriculture and Food Systems 22(2):77–79.
2. Hughner, R., McDonagh, P., Prothero, A., Shultz, J., and Stanton, J. 2007. Who are organic food consumers? A compilation and review of why people purchase organic food. Journal of Consumer Behaviour 6(2/3):94–110.
3. Pearson, D. and Henryks, J. 2008. Marketing organic products: exploring some of the pervasive issues. Journal of Food Products Marketing 14(4):95–108.
4. Berlin, L., Lockeretz, W., and Bell, R. 2009. Purchasing foods produced on organic, small and local farms: A mixed method analysis of New England consumers. Renewable Agriculture and Food Systems 24(4):267–275.
5. Janssen, M., Heid, A., and Hamm, U. 2009. Is there a promising market 'in between' organic and conventional

https://doi.org/10.1017/S1742170510000499 Published online by Cambridge University Press

food? Analysis of consumer preferences. Renewable Agriculture and Food Systems 24(3):267–275.
6. Achilleas, K. and Anastasios, S. 2008. Marketing aspects of quality assurance systems: The organic food sector case. British Food Journal 110(8):829–839.
7. de Magistris, T. and Gracia, A. 2008. The decision to buy organic food products in Southern Italy. British Food Journal 110(9):929–947.
8. Ritson, C. and Brennan, M. 2008. What does consumer science tell us about organic foods? In D. Givens, S. Baxter, A. Minihane, and E. Shaw, (eds). Health Benefits of Organic Food: Effects of the Environment. CABI, Wallingford, UK, p. 190–206.
9. Darby, M. and Karni, E. 1973. Free competition and the optimal amount of fraud. Journal of Law and Economics 16:67–88.
10. Nelson, P. 1970. Information and consumer behaviour. Journal of Political Economy 78(2):311–329.
11. Willer, H., Yussefi-Menzler, M., and Sorensen, N. 2009. The World of Organic Agriculture: Statistics and Emerging Trends. Earthscan, London.
12. TNS. 2007. World Panel Reference Library Grocery Share of Trade, 4th November 2007, London.
13. Brown, H. and Geldard, J. 2008. Supplying local food to mainstream customers. Market Drayton, UK, Westley Consulting. Available at Web site http://www.westleyconsulting.co.uk (accessed April 16, 2010).
14. Defra. 2008. Understanding of Consumer Attitudes and Actual Purchasing Behaviour, with Reference to Local and Regional Foods. Department of Food, Rural Affairs, London.
15. Fuller, R., Nortin, L., Feber, R.E., Johnson, P.J., Chamberlain, D.E., Joys, A.C., Mathews, F., Stuart, R.C., Townsend, M.C., Manley, W.J., Wolfe, M.S., Macdonald, D.W., and Firbank, L.G. 2005. Benefits of organic farming to biodiversity vary among taxa. Biology Letters 1(4):431–434.
16. Mäder, P., Fließbach, A., Dubois, D., Gunst, L., Fried, P., and Niggli, U. 2002. Soil fertility and biodiversity in organic farming. Science 296:1696–1697.
17. Tregear, A., Dent, J., and McGregor, M. 1994. The demand for organically grown produce. British Food Journal 96(4):21–25.
18. Pearson, D., Henryks, J., and Moffitt, E. 2007. What do buyers really want when they purchase organic foods? An investigation using product attributes. Journal of Organic Systems 2(1):1–9.
19. Benbrook, C., Zhao, X., Yanez, J., Davies, N., and Andrews, P. 2008. State of Science Review: Nutritional Superiority of Organic Foods: The Organic Center, University of Arizona. Available at Web site http://www.organic-center.org (accessed June 27, 2010).
20. Burton, S. 2006. Contrasting organic and conventional food products: Consumers' subjective perceptions and objective evaluations of nutrition and taste. Journal of the International Society of Business Disciplines Spring:37–47.
21. FSA. 2009. Comparison of putative Health Effects of Organically and Conventionally Produced Foodstuffs: A Systematic Review. Food Standards Agency, London.
22. Mitchell, A.E., Hong, Y.J., Koh, E., Barrett, D.M., Bryant, D.E., Denison, R.F., and Kaffka, S. 2007. Ten-year comparison of the influence of organic and conventional crop management practices on the content of flavonoids in tomatoes. Journal of Agricultural and Food Chemistry 55(15):6154–6159.
23. Butler, G., Stergiadis, S., Eyre, M., Leifert, C., Borsari, A., Canever, A., Slots, T., and Nielsen, H.J. 2007. Effect of production system and geographic location on milk quality parameters. In 3rd International Congress of the European Integrated Project Quality Low Input Food (QLIF) Hohenheim, Germany, p. 100–103.
24. Wolfe, M.S., Baresel, J.P., Desclaux, D., Goldringer, I., Hoad, S., Kovacs, G., Löschenberger, F., Miedaner, T., Østergård, H., and Lammerts van Bueren, E.T. 2008. Developments in breeding cereals for organic agriculture. Euphytica 163(3):323–346.
25. Wandel, M. and Bugge, A. 1997. Environmental concern in consumer evaluation of food quality. Food Quality and Preference 8(1):19–26.
26. Defra. 2004. Action Plan to Develop Organic Food and Farming in England – Two years on. Department of Environment Food and Rural Affairs, London.
27. Chang, H. and Zepeda, L. 2005. Consumer perceptions and demand for organic food on Australia: Focus group discussions. Renewable Agriculture and Food Systems 20(3):155–167.
28. Lea, E. and Worsley, T. 2005. Australians' organic food beliefs, demographics and values. British Food Journal 107(11):855–869.
29. McEachern, M.G. and Willock, J. 2004. Producers and consumers of organic meat: a focus on attitudes and motivations. British Food Journal 106(7):534–552.
30. Shepherd, R., Magnusson, M., and Sjödén, P-O. 2005. Determinants of consumer behavior related to organic foods. AMBIO 34(4):352–359.
31. Lockie, S., Halpin, D., and Pearson, D. 2006. Understanding the market for organic food. In P. Kristiansen, A. Taji, and J. Reganold (eds). Organic Agriculture: A Global Perspective. CSIRO, Melbourne, p. 245–258.
32. Pearson, D. 2002. Marketing organic food: who buys it and what do they purchase? Food Australia 54(1):31–34.
33. Zepeda, L., Chang, H., and Leviten-Reid, C. 2006. Organic food demand: a focus group study involving Caucasian and African–American shoppers. Agriculture and Human Values 23:385–94.
34. Fotopoulos, C. and Krystallis, A. 2002. Organic product avoidance: Reasons for rejection and potential buyers' identification in a countrywide survey. British Food Journal 104(3/4/5):233–260.
35. McEachern, M. and McClean, P. 2002. Organic purchasing motivations and attitudes: are they ethical? International Journal of Consumer Studies 26(2):85–92.
36. SA. 2009. Organic Market Report. Soil Association, Bristol, UK.
37. Henryks, J. and Pearson, D. 2010. Marketing communications create confusion: Perception versus reality for Australian organic food consumers. Australian and New Zealand Communications Association Conference: Media Democracy and Change, 7–9 July, Canberra, Australia.
38. Thompson, G. 1998. Consumer demand for organic foods: What we know and what we need to know. American Journal of Agricultural Economics 80(5):1113–1118.
39. Lockie, S., Lyons, K., and Lawrence, G. 2006. Going Organic: Mobilising Networks for Environmentally Responsible Food Production. CABI, Wallingford, United Kingdom.

https://doi.org/10.1017/S1742170510000499 Published online by Cambridge University Press

40. Padel, S. and Foster, C. 2005. Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. British Food Journal 107(8): 606–625.
41. Niessen, J. and Hamm, U. 2008. Identifying the gap between stated and actual buying behaviour on organic products based on consumer panel data. In 16th IFOAM World Congress, 16–20 June, International Federation of Organic Agricultural Movements, Modena, Italy.
42. Fearne, A. 2008. Organic Fruit and Vegetables—Who Buys What and Why . . . and do we Have a Clue? Kent Business School, University of Kent, Canterbury, UK.
43. BFA 2010. Australian Organic Market Report 2010, Biological Farmers of Australia, Brisbane, Australia.
44. Lockie, S., Lyons, K., Lawrence, G., and Grice, J. 2004. Choosing organics: a path analysis of factors underlying the selection of organic food among Australian consumers. Appetite, 43(2):135–146.

https://doi.org/10.1017/S1742170510000499 Published online by Cambridge University Press