Farmer attitudes towards converting to organic farming

Doris Laepple and Trevor Donnellan

Rural Economy Research Centre (RERC), Teagasc, Athenry

Introduction

Despite the considerable interest in organic farming the Irish organic sector remains small. Therefore to target support for the sector it is important to understand why farmers make decisions in favour or against organic farming as well as to identify drivers and barriers affecting that decision. Adoption of organic farming is assumed to be driven by a variety of different reasons such as economic and socio-economic, structural and institutional factors (e.g. Defrancesco et al., 2008; Burton et al, 2003). However, information gathering (e.g. Genius et al, 2006) and attitudes of the farmer (e.g. Willock et al, 1999, Hattam, 2006, Rehman et al, 2007) are also important in that decision.

This paper focuses on the role that the attitudes of farmers play in identifying drivers and barriers to the intention to convert to organic farming using the theory of planned behaviour. To set this paper in context, it is part of a larger study which aims to explain the decision to adopt or not to adopt organic farming over time with respect to a variety of factors such as economic, institutional and socio-economic as well as comparing the attitudes and objectives of organic and conventional farmers.

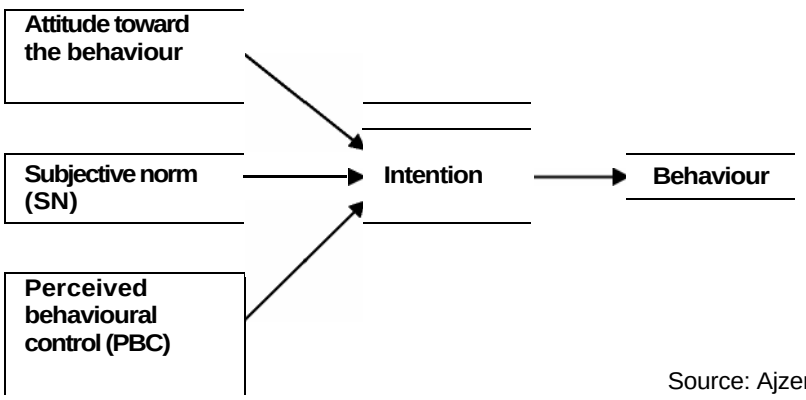
Theory of planned behaviour

In order to gain a better understanding of the decision to adopt organic farming, it is perceived as a human behavioural issue. A model from the social psychology literature named the theory of planned behaviour (TPB) is applied. According to the TPB intention is based on three main constructs, namely attitudes, subjective norm (SN) and perceived behavioural control (PBC) (see Figure 1).

Intention to perform the behaviour is regarded as the most important immediate determinant of that action (Ajzen, 2005). Therefore, the primary objective is to identify the factors that drive the intention to perform the behaviour. However, due to social consequences (SN) and not having full control over the implementation (PBC),

attempting to perform the behaviour may not necessarily lead to performing the behaviour.

Figure 1: The theory of planned behaviour (TPB)



Source: Ajzen, 2005.

Each construct is measured in a direct and indirect way. The direct measures are captured by statements which directly assess the opinion of the respondents (e.g. attitude is measured by '*In your opinion how good or bad would it be to produce organic meat on your farm within the next five years?'*; SN investigates the agreement of the farmer to the statement '*most people who are important to you think you should produce organic meat',* whereas PBC assesses if the farmer thinks it is possible to produce organic meat on the farm). The indirect measures consist of three different types of outcome belief statements, namely (i) behavioural, (ii) normative and (iii) control beliefs (Hattam, 2006); and evaluation of these beliefs. The strength of each belief is multiplied by the subjective evaluation, giving each statement an individual weight (Ajzen, 1991).

Farmer interviews, survey design and method

In order to design the survey of conventional drystock farmers, preliminary work was undertaken to establish suitable survey questions. About 50 personal interviews with conventional farmers and farm advisers were conducted to elicit the true opinion and perceived problems of farmers if farming organically on their farm. The most frequently mentioned beliefs were then included in the survey to elicit conventional farmers' attitudes toward and possible responses to organic farming. The survey also includes questions about the level of farming experience and succession plans,

sources of information on farming, as well as attitudes and objectives of the farmer. Since the survey was conducted by the Teagasc National Farm Survey (NFS) no questions on economic, socio-economic and structural data were included, as this type of data is collected as a matter of course in the NFS. As data collection is still ongoing, 181 conventional drystock farmers are included in the data analysis presented here.

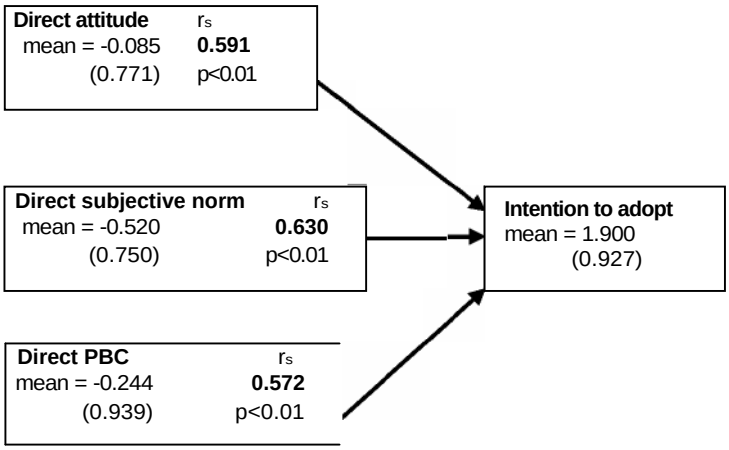
Results and discussion

General influence

Descriptive statistics show that the intentions of farmers to adopt organic farming within the next five years are low with a mean score of 1.9 measured on a scale from 1 to 5 (see Figure 2). Almost three quarters of the respondents express a very low or low intention to go organic. Nevertheless, 6% of respondents indicate considerable interest in going organic within the next five years.

The mean scores of the direct measures of attitude, SN and PBC are generally negative, though not strongly (see Figure 2). These statements are measured from -2 to +2, therefore a mean score close to 0 equals a neutral opinion. This indicates that in general farmers themselves do not have particularly strong opinions about converting to organic farming. Furthermore, they recognise a negative opinion among their 'important others' with respect to organic farming and perceive problems when farming organically.

Figure 2: Mean scores and correlation coefficients of attitude, SN and PBC



Intention is scored from 1 –5, Attitude, SN and PBC are scored from -2 to +2, correlations (r_s) are non-parametric Spearman correlation coefficients; values in brackets are standard deviations.

Source: Authors' work

The differential influence of attitude, SN and PBC measures is determined by comparing the correlations between them and the intention to convert. All factors correlate significantly with the intention to convert and thus are influential (see Figure 2). However, the strongest correlation is found between SN and intention. This suggests that farmers are sensitive to the views of important others regarding conversion to organic farming.

Barriers and drivers of conversion

Barriers and drivers were identified by calculating correlation coefficients between the indirect attitude measures and intention (see Table 1). A perception by farmers that by becoming organic they would *'produce a product only rich people can afford'* appears to be the main barrier. This influence is stronger than the two identified drivers of adoption, which are '*increasing farm income due to higher support payments'* and '*receiving higher prices'*. These results indicate that future uptake of organic farming is likely to be financially driven, but farmers are reluctant to produce a product which they perceive only rich people can afford. The personal interviews also confirmed this result, as most farmers immediately mentioned they felt no one can afford to buy organic food as it is seen as too expensive.

Table 1: Correlations between attitudinal statements and intention

Attitudinal statements	Intention versus attitudinal statements correlations
Saving on fertilizer costs	n.s.
Receiving higher prices	0.247**
Increasing farm income due to higher support payments	0.290**
Leads to farming as it was 50 years ago	-0.182*
Provides a product only rich people can afford	-0.3 16**

Corrleation coefficients are non-parametric spearman, ** significant at p<0.01, * significant at p<0.05, n.s. = not significant.

Source: Authors' work

Influence of other people and information sources on the farm operator

Results indicate that farmers are moderately motivated to follow the advice of others or act on information received from sources such as information events or the farming press. Farm advisers appear to be the most influential group with a mean score of 2.59, with the farmer's family seen as the next most important influence (see Table 2). Negative mean scores for normative beliefs indicate that none of these groups or information sources trigger farmers to convert. In the personal interviews, it was particularly noticeable that the father of the farm operator, having a bad opinion about organic farming, was frequently mentioned as a barrier to converting. This finding is supported by a mean score of -1.14 for the farmer's family, the strongest negative value (see Table 2). Correlation coefficients to intention indicate that the farming press and farm advisers have the strongest influence on conversion. Thus, promotion of organic farming by the farming press and by farm advisers may overcome the limited positive sentiment towards going organic.

Table2: Mean values and standard deviation for motivation to comply, normative beliefs, referent subject norm and correlation coefficients to intention.

	Motivation to comply (range 1to 5)		Normative beliefs (range -2 to +2)		Belief based subjective norm (range -10 to +10)		Correlations to intention
Important others	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.	r_s
1. Family	2.44	1.33	-1.14	0.97	-2.36	3.07	0.380
2. Other farmers	2.10	1.13	-1.09	1.00	-1.93	2.63	0.339
3. Farm advisers	2.59	1.30	-0.78	1.05	-1.57	3.28	0.392
4. Information events	2.35	1.29	-0.71	1.10	-1.08	2.90	0.388
5. Farming press	2.27	1.26	-0.73	1.13	-1.06	2.99	0.440

Correlation coefficients (r_s) are non-parametric spearman and are significant at p<= 0.01

Source: Authors' work.

Perceived problems

Maintaining animal health based on prevention shows a negative mean score of -0.61 suggesting that this is a concern for farmers when going organic (see Table 3). Mean scores close to 0 indicate that farmers are uncertain about their organic knowlegde and skills (0.24) and the time involved in farming organically (0.17). These figures suggest that generally conventional farmers believe that they are not particularly well informed about organic farming. Thus promotion and increased information about organic farming could overcome some of these barriers.

Table 3: Mean scores of control belief statements

Control belief statements	**Mean scores** (range -2 to +2)	**St. dev.**
Having the knowledge and the skills	0.24	1.04
Having sufficient time to carry out the work	0.17	1.07
Having suitable farm conditions	0.59	1.09
Producing organic meat without using fertilizer	0.49	1.07
Maintaining good animal health based on prevention	-0.61	1.03

Source: Authors' work.

Conclusion

The results presented here suggest that, under current circumstances, large-scale conversion to organic farming by drystock farmers within the next five years is uncertain, but nevertheless 6% of drystock farmers state considerable interest in going organic. It appears that farmers do not have strong opinions about organic farming but equally the results here suggest that they feel they do not have a good level of knowledge about organic farming. Therefore an increase in information mainly focused on promoting organic farming as a profitable alternative to conventional farming could have a positive impact on the tendency for conversion. Future conversion to organics is most likely to be financially driven, but nevertheless the farmers' perception that only rich people can afford to buy organic food remains a barrier and considerations might be given towards approaches that might alter this mindset.

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