

A review of selected theories and their applications to information seeking behavior and adoption of organic agricultural practices by farmers

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Abstract: This paper discusses the application of selected theories to explain information seeking behavior and adoption of organic agricultural practices by farmers. The paper begins with a brief description of these selected theories which are the theory of Planned Behavior, diffusion theory and innovation theory. Following the brief description, the application of each of these theories to information seeking behavior and adoption of organic agricultural practices were discussed. Therefore, the paper recommends that in order to ensure adequate dissemination and the adoption of organic agricultural practices, extension officers, change agents, NGOs and the policy makers should adopt the principles in each of these theories to enhance farmers acceptance and implementation on the innovation.

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Introduction

Van Es, (1984) reported farmers as voluntaristic decision makers i.e farmers have virtually full control over the decision to invest in agricultural technology. Lynne et al, (1995) observed that persuasion to encourage changes in beliefs and evaluations may also be the only way to technology compliance. Farmers may need to perceive at least some control in order for them to move forward with technology decisions: with more (internal) control, farmers are more likely to take action, and to invest more intensely. This paper examines selected theories dealing with human behavior and technological innovation in agriculture, reviewing the attributes and principles of each of them for adoption of innovation. The main theories examined are theory of planned behavior, innovation theory and diffusion theory. All of which are associated with technological change. This paper has significant policy implications, especially for advocacy and adoption of organic agricultural practices by farmers for sustainable agricultural development.

Theory of Planned Behavior (ToPB): The Theory of Planned Behavior (ToPB) (Ajzen, 1985) is a general theory of every kind of social behavior. It encompasses three theoretical constructs (Figure 1), which influence the intention to perform a given behaviour, viz. the attitude towards behaviour, the subjective norm, and the perceived behavioural control. These constructs are formed by three different kinds of beliefs, namely consequence beliefs, normative beliefs and control beliefs. Consequence beliefs influence the attitudes towards the behavior. These attitudes are subjective

evaluations of the consequences of performing the given behaviour. Normative beliefs cause the subjective norms with regard to the given behaviour. The subjective norm shows the perceived social pressure to perform the behaviour. Control beliefs, in comparison, form the perceived behavioural control. Perceived behavioural control contains the subjective assessment about a person's ability to control the behaviour in question.

The more favourable the attitude toward a given behaviour and the subjective norm, and the greater the perceived behavioural control, the stronger should be the person's intention to perform the behaviour in question. Once an intention is formed, people are expected to carry out their intentions when the opportunity arises. After performing a behaviour people can revise and change their beliefs, because personal experience is seen as one of the important factors for changing attitudes. Therefore, there is a feedback between the performance of the behaviour and the three different kinds of beliefs. When beliefs are changed, a change in attitude, subjective norm and perceived behavioral control will also follow. The foundation of the ToPB is the subjective expected utility theory (SEU) and, like the main assumption of the SEU, persons are assumed to behave in a rational way. It means that persons are systematic information processors and they behave in accordance with their subjective expected or perceived utility (Fishbein and Ajzen, 1975). According to Bamberg and Schmidt (1993), ToPB is one of the prominent theories in the social psychology domain. This theory has proved to be useful in explaining many cases such as recycling

behaviour (Bamberg and Lüdemann, 1996), choice of public transport (Bamberg and Schmidt, 1997), use of tobacco and alcohol (Higgins and Conner, 2003),

blood donation behaviour (Giles and Cairns, 1995) and exercise behaviour (Arnscheid and Schomers, 1996).

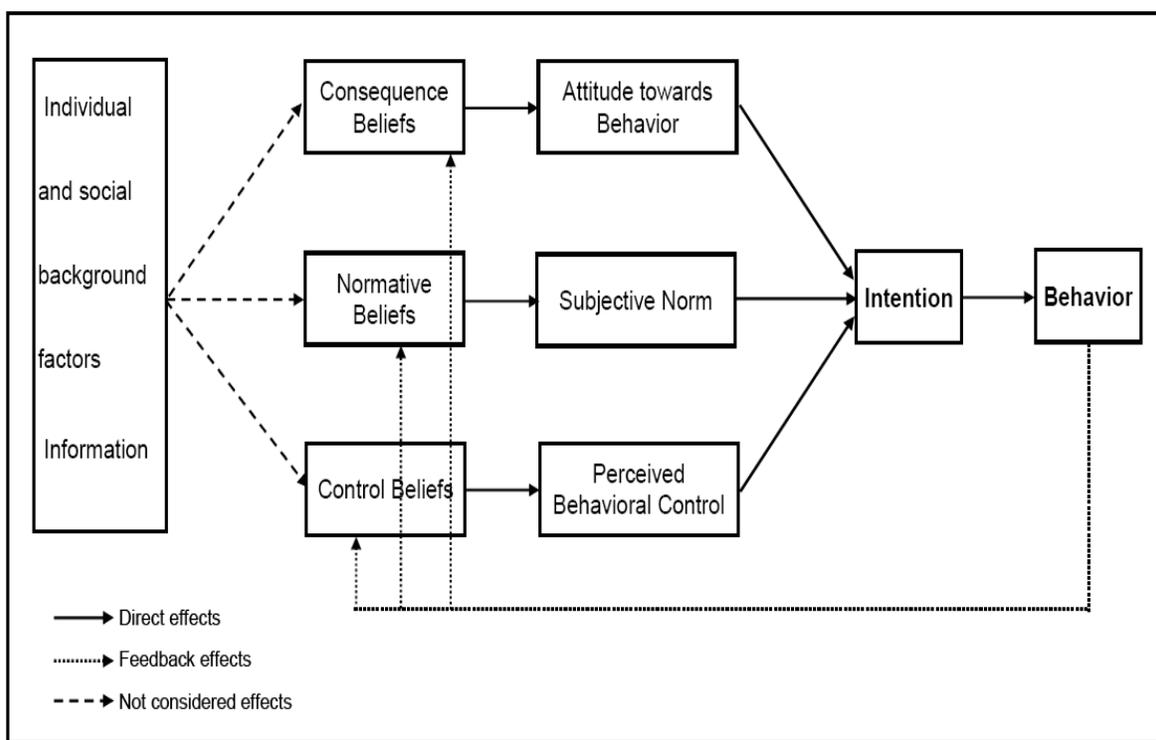


Figure 1: Theory of Planned Behaviour (ToPB), Source: Adapted from Ajzen and Fishbein, 2005

Application of ToPB to Information Seeking Behaviour and Adoption of Organic Agriculture Practices among farmers.

This theory is related to farmers' information seeking behavior and adoption of organic farming in the sense that adoption of organic farming depends on the attitude and the knowledge that farmers have about organic farming and it is only through relevant information that knowledge can be built up. According to this theory the more favourable the attitude toward a given behaviour and the subjective norm and the greater the perceived behavioural control, the stronger should be the person's intention to perform the behaviour in question. This implies that favourable attitude of farmers towards organic agriculture will enhance its adoption. After adoption, and farmers realize a better result, the farmers can revise and change their beliefs about organic agriculture based on their experience.

Diffusion Theory (DT)

The Diffusion Theory is used as another theoretical background to extend the ToPB. The Diffusion Theory has been mainly developed to explain the farmers' adoption of innovations

(Leeuwis, 2004). The adoption of an innovation is seen as a process and follows five main phases (Rogers, 1995, 2003):

1) Knowledge about the innovation, to become aware of the innovation; in this phase, mass media plays an important role as a source of information;

2) Persuasion, evaluation of the attributes of an innovation, i.e. formation of attitudes regarding the innovation, comparing its advantages and disadvantages; and friends and neighbours are the most important sources of information at this stage;

3) Decision to adopt the innovation or not; this stage is described as an active information seeking and processing phase, the aim is to reduce uncertainty about the advantages and disadvantages of the innovation; important sources of information again are friends and neighbours;

4) Implementation of the innovation; sometimes an adaptation of the innovation to the own farm environment may be needed and personal experience is very important at this stage of the adoption process;

5) Confirmation, i.e. the individual seeks reinforcement for the innovation-decision already made.

Application of the Diffusion theory to information seeking behaviour and adoption of organic farming practices among farmers

According to Diffusion theory, adoption of an innovation is seen as a process and follows five main phases. This theory can be used to explain the information seeking behavior and adoption of organic practices among farmers. This is because farmers can either adopt organic agriculture fully or partially. The relationship is explained as follows:

Knowledge: Farmers can only adopt what they are aware of, besides, they can only have the knowledge by obtaining relevant information through appropriate source. Therefore, adoption of organic farming practices can be enhanced when the farmers are aware of the innovation through appropriate channels. Mass media being one of the sources of information plays an important role at this stage because it helps to stimulate farmers to wanting to know more in detail about organic agriculture.

Persuasion; At this phase of adoption, farmers will adopt organic agriculture fully, partially or will not adopt at all depending on his attitude regards the innovation and having compared the advantages and disadvantages. Friends and neighbours are the most important information sources at this stage.

Decision: At this information seeking and processing phase, farmers will want to obtain more concrete information before adopting the practice of organic agriculture. Friends and neighbours are sources of information and they have greater influence on the decision of the farmers either positively or negatively. This is because they are able to persuade and convince the farmers whether to adopt or not to adopt.

Implementation: Farmers may want to try these organic agriculture practices on a small portion of his farm i.e. an adaptation of the innovation. This will enable him to have a personal experience of the practice before he adopts the innovation fully.

Confirmation: Having tried the innovation and seen the result, the farmers will not only adopt the innovation but also seek reinforcement for the innovation decision already made.

Innovation Theory

According to the Innovation Theory (Albrecht, 1992; Rogers, 2003; van den Ban and Hawkins, 1996), the adoption of an innovation depends on the attributes of the innovation, social norms and communication channels which are used as information sources to reduce uncertainty about the innovation. The attributes of the innovation are the relative advantages, the compatibility, the complexity, the trialability and the observability.

Social norms are established behaviour patterns within a social system. Not to behave like the norms will cause some kind of consequences. Uncertainty about an innovation exists because not all persons have the same information or understanding of the innovation. Information sought through different communication channels can reduce uncertainty. Mass media channels are relatively more effective in creating general knowledge about the innovation and can therefore reduce uncertainty. However, interpersonal channels are relatively more effective in forming and changing attitudes toward the innovation and thus influence the decision to adopt or reject the innovation.

Application of the innovation theory to information seeking behaviour and adoption of organic agriculture practices among farmers

This theory also relates to information seeking behaviour and adoption of organic farming practices because farmers will adopt an innovation when they know the relative advantages, compatibility, complexity, triability etc., particularly when the relative advantages are more than those of the practices they have been using. Social norms within a social system can affect the adoption of organic farming practices particularly when the elders in a community are not convinced about the new innovation. The whole community may end up rejecting the innovation as a result of their strong influence on the entire community. Communication channels used to get the people informed about the organic farming practices will determine whether they will reject or adopt. This is because mass media channels create general knowledge, however, interpersonal channels are relatively more effective in forming and changing attitudes and influence the decision to adopt or reject the innovation. The paper has revealed the application of theory of planned behavior, diffusion and adoption of organic agricultural practices by the farmers. It is therefore recommended that extension officers, change agents, NGOs and the policy makers should adopt the principles in each of these theories to enhance farmers' acceptance and implementation of the innovation.

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