Consumer Trust and Confidence: Some Recent Ideas in the Literature

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Abstract

This paper reflects on two recent debates in the consumer literature on trust that have implications for consumer relations in the water industry. The first concerns an important yet seldom made distinction between trust and confidence. The second concerns when and how trust is related to acceptance of, for example, new tariffs or new technologies, and it challenges the conventional view that trust is usually a precursor of acceptance. New conceptual models addressing these debates are described and their implications for future water-related consumer research are discussed as are potential implications for industry relationships with consumers.

Introduction

To structure this paper our starting point is the commonly made assertion that public trust is a key factor in encouraging cooperative action on the part of consumers (Siegrist, Earle & Gutcher 2003). Under the European Union Water Framework

Directive, water suppliers and those managing river basins will have to involve consumers in decision making and this political goal seems unlikely to succeed if consumers do not trust the key agents in this process. Similarly, where some innovation or change is proposed it is also often assumed that consumer trust is important in determining the acceptability of any proposed change. Where suppliers have to deal with water-related incidents and accidents again it is assumed that trusted suppliers and regulators will be better able to deal with these events efficiently. As we shall see however, these assumptions about the role of consumer trust in securing acceptance of the actions of the regulator and of technological developments is more problematic than it may first appear.

The Concepts of Trust and Confidence

Following Siegrist *et al* (2003) we draw the distinction between *trust*, which involves some judgement of similarity of values and intentions (so called 'morality' information) and *confidence* which is a belief based on past experience that events will occur as expected. This may seem a subtle distinction at first but trust, in handing over agency to another, is fundamentally a feature of a social relationship where one has to impute openness, fairness and integrity (among many other possible characteristics) to another. Confidence that something will happen on the other hand does not necessarily involve trusting the motives or values of the agents involved.

While confidence and trust will often go together they do not have to. On the basis of past experience of the delivery of good quality water one might have developed *confidence* that there will continue to be good quality water coming out of one's tap. It may thus not be necessary or relevant to have to trust the motives and values of the supplier and to judge whether these are consistent with one's own well-being and interests. Indeed, Siegrist *et al*, (2003) argue in the context of electricity supplies that where past competence has led to high confidence in the supply, trust in the supplier is essentially unimportant. In the case of utilities trust only comes into play when something has gone wrong with the supply and it is no longer possible to be as confident that the supply will continue as before.

In other situations, particularly where the consumer has little past experience upon which to base estimates of competence and thus confidence, social trust will become relatively more important and may be used to impute likely competence to the relevant body. In situations where, for example, a new treatment process is proposed, there will be no direct experience for consumers to use as a basis for their confidence estimates and thus social trust based on an assessment of the supplier's and regulator's motives becomes important. Earle and Siegrist (2006) have attempted to address this by producing a conceptual framework that explicitly acknowledges this distinction between and brings the concepts together in a single model. Their Trust, Confidence and Cooperation (TCC) framework is intended to be applicable to all aspects of trust between an individual and both known and unknown others including organisations. The framework is detailed in Figure 1.

The model has a number of key features. First it suggests that social trust is based on morality-relevant information, while confidence is based on performance–relevant information and in times of low social uncertainty, when morality information is less relevant, social trust does not play the main role in cooperation. Cooperation here

implies any compliance or acceptance behaviour and could include prompt payment of water bills, acceptance of interruptions to supplies, acceptance of price increases, willingness to use less water etc. It also suggests that social trust becomes more important in times of uncertainty, when morality information becomes more relevant and it hypothesises that social trust will affect judgments of confidence both directly and via effects on perceived performance (cf. Earle and Siegrist, 2006, p388).

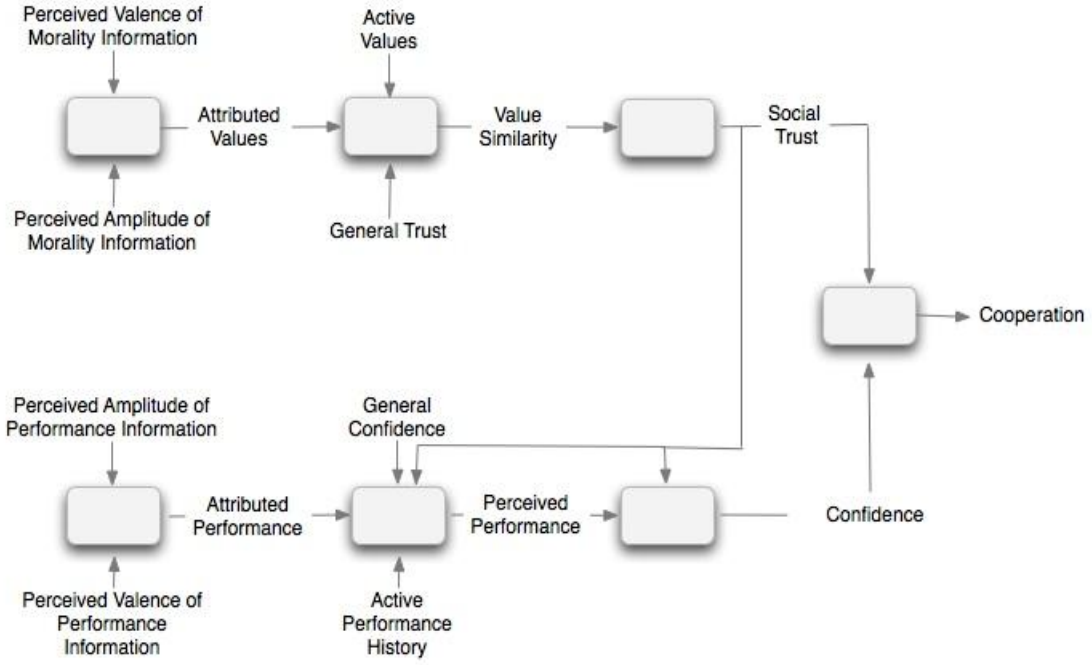

Figure 1 Earle and Siegrist's (2006) Trust, Confidence and Cooperation Framework.

Earle and Siegrist (2006) claim that social trust dominates confidence, stating that judgements of confidence presume pre-existing relations of trust. It is assumed that where social trust is present some performance failings might lower confidence a little but would not undermine a willingness to cooperate. By implication when social trust is absent or low, performance failures should lead to a swift response from consumers, such as complaints or a lack of cooperation. Before discussing the implications of this model further we discuss the role of trust in perceptions of risk, and acceptance.

Trust as a Factor in Perceptions of Risk and Acceptance

We turn now to a different part of the literature on trust which on an initial reading seems somewhat unrelated to the TCC model in that it does not make an explicit distinction between trust and confidence. A good deal of research shows that trust is related to the perception and acceptance of risk (e.g. Bord and O'Connor, 1992; Freudenburg, 1993) and it is usually assumed that trust influences perceptions of risk which in turn influence acceptability. Broadly, if an organisation or authority is trusted then perceptions of risk arising from their activities will be lower and thus the public will be more accepting of their activities. Numerous studies show correlations between trust, risk perception and acceptance but this merely demonstrates that the three constructs are linked; it does not indicate how they are linked.

Eiser, Miles & Frewer (2002) and Poortinga and Pidgeon (2005) both address this issue and define two alternative models of the relationship between trust, risk perception and acceptance. The model suggesting that trust leads to lowered risk perception which leads to acceptance is referred to as the 'causal chain' account of trust and is illustrated in figure 2.

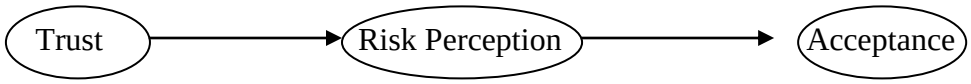

Figure 2. The Causal Chain Model

The alternative view, referred to as the 'associationist view', argues that trust is an *outcome* of acceptance rather than a factor implicated in its genesis. Here it is proposed that people initially respond to a potential hazard on the basis of how they feel about it. In other words, their willingness to approach or avoid the hazard is made on the basis of affective reactions which are made before extensive cognitive processing of other relevant information (cf. Finucane, Alhakami, Slovic & Johnson, 2000). This is referred to as the 'affect heuristic' – affect precedes cognition – in that in certain situations emotional responses precede thought.

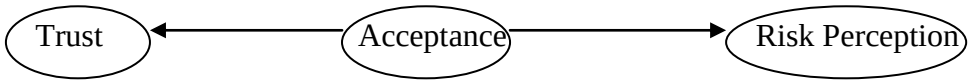

Figure 3. The Associationist Model

Both Eiser *et al's* (2002) and Poortinga and Pidgeon's (2005) studies suggest that in the context of food technologies the associationist model seemed to give a better account of the data. While there was, in the latter study a small residual direct influence of trust on risk perceptions it seemed that people's existing evaluations of these technologies seemed to drive levels of trust.

The implications of these studies are potentially quite far reaching. If it is true that people respond to a potential hazard using something like an affect heuristic and this response influences both trust and risk perceptions then the water industry's concern to work on improving consumer relations in order to enhance trust is unlikely to have the effect of lowering perceptions of risks from potential water supply hazards. In addition these models would predict that the emergence of a negative hazard event or a proposal to introduce a process like direct potable re-use which some consumers would find unpleasant might have the effect of degrading consumer trust (Marks, 2006). Negative events have a high signal value and trust, once lost, is quite hard to re-establish (Slovic, 1993).

While we do not suggest that fostering trust is pointless - there are plenty of other good reasons to have good relations with consumers - there may be a case for limiting expectations of positive knock-on effects in terms of acceptance of change or technological advance. What we do not yet know is the applicability of these models in

various water-related contexts. Clearly this is an area that needs further research though there is some indicative evidence already in the literature. In the 1998 Sydney Water incident, Sydney Water released advice to consumers to boil their water three times during 1998 as a result of the detection of *Cryptosporidium*. Despite the issue of warnings being essentially a responsible act (i.e. Sydney Water acting in the best interests of consumers) there was a decline in trust which corresponded with a lower trust in potable reuse proposals (Roseth, 2000). This was accompanied with a 19% fall in agreement that Sydney Water could be trusted to manage recycled water responsibly (presumably an assessment of a lack of competence and thus confidence rather than social trust).

Similarly, a public backlash against the outbreak of Giardia (*Giardia lamblia*) in Bergen of 2004 is becoming evident in 2007, nearly three years later. The first reaction is a legal case now being brought by a lawyer representing infected individuals against Bergen municipality. The second reaction is a political response to the fine of 800 000 Norwegian Crowns imposed on the municipality – there is concern that the fine is trivial compared to the significant health effects that many consumers have suffered suggesting a desire to punish the Bergen municipality for its failure in its duty of care.

Integrating Recent Developments

As we noted earlier, the above studies on the role of trust have not clearly acknowledged the trust/confidence distinction discussed in the context of the TCC. Poortinga and Pidgeon's (2005) study asked primarily about confidence via such survey items as "I feel confident that the British government adequately regulates GM food" and "I am confident that the development of GM crops is being carefully regulated". These are more assessments of competence than assessments of values or motives i.e. not social trust.

In Eiser et al's (2002) studies participants read information about food technologies ostensibly provided by a consumer organisation or the government and were invited to indicate their level of agreement with items such as "This information is trustworthy" and "I very much trust the information I have just read". In this case it is not entirely clear whether the judgements were being made about the competence of the sources to provide accurate information (confidence) or the presumed motives of these sources (social trust). Whether immediate emotional responses to reject a proposal (for example, direct potable re-use) have an impact on assessments of the motives of, as well as confidence in, a supplier or regulator remains a subject for further research and is currently being addressed in the TECHNEAU project.

The TCC model on the other hand implicitly assumes that a causal chain process dominates, though it might be able to accommodate an associationist model possibly via people reflecting on past performance. The main thrust remains however that cooperation, which we are assuming implies aspects of acceptance, results from trust and confidence. Clearly both sets of theoretical developments need integrating into a coherent general model that indicates why and when trust and/or confidence will be important in producing cooperation and acceptance. Indeed even these concepts need further elaboration since cooperation as commonly used in the English language implies some form of positive action where as acceptance can be passive.

As mentioned earlier there is relatively little recent research on the relationships between trust and confidence and acceptance specifically in the context of water; most of the developments and debates have occurred in different substantive domains. One notable exception is the study by Po *et al* (2005) in the water reuse domain. They carried out an investigation to identify the different factors that might influence their decision to accept (drink) partially recycled water. They used Ajzen's (1985) Theory of Planned Behaviour (TPB) as the theoretical basis for their work to investigate communities' responses to an indirect potable scheme in Perth, Australia an area facing long-term water shortages. In response to these shortages the Managed Aquifer Recharge Scheme (MAR) method of water reuse had been proposed, which would involve the introduction of treated wastewater into the aquifer. Using a survey to elicit attitudinal responses and structural equation modelling to test tentative models of behaviour they came up with the following model:

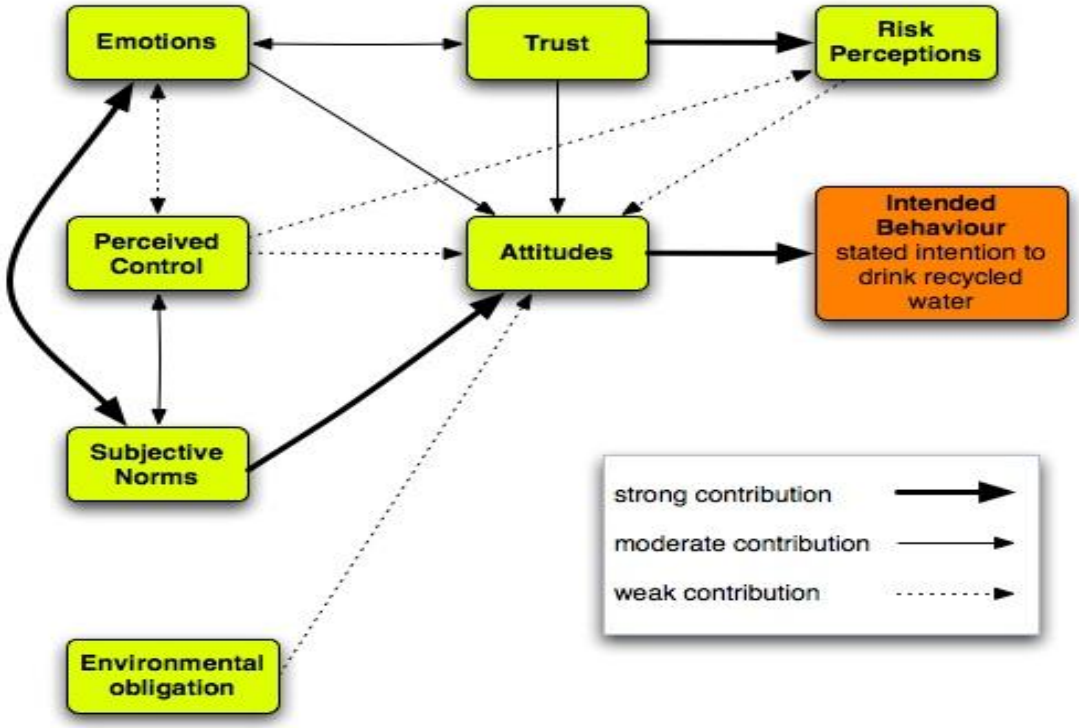

Figure 4. Model of factors that influence decisions to drink from the MAR scheme (simplified version: Source: Po et al, 2005)

On the basis of their model, Po *et al* (2005) found that respondents' stated intention to drink water from the scheme could be predicted primarily by their attitudes. The key relationships in the model were between *subjective norms, environmental obligation, perceived control, emotions, trust, risk perceptions* and *attitudes*. Trust was one of the factors influencing attitudes and was also a strong predictor of risk perceptions. Where consumers had low levels of trust (actually *confidence* here*)* in the authorities to manage the scheme they perceived a greater threat from recycled water and developed more negative attitudes towards drinking the water. What is particularly relevant is that risk perceptions, the construct(s) that educational/informational interventions would be expected to address were only weak predictors of attitudes that were the primary

determinant of acceptance in this dataset.

The Po et al (2005) study was not designed to directly test either the TCC or the competing causal chain vs. associationist models; it was built around the much older and more general TPB which is not itself directly concerned with risk perceptions, emotions or trust/confidence; these constructs were added to the TPB by Po et al. However, their analysis does point to a causal role for emotions (actually measured as disgust) in determining attitudes and thence intentions and suggests at least a bi-directional relationship between emotions (disgust) and confidence. Their model is thus partially consistent with the causal chain account of acceptance but also contains elements of the associationist model.

Implications for the Water Supply Industry

Research more directly designed to test the TCC, causal chain vs. associationist models, and an integrative model is clearly necessary. The TECHNEAU project is beginning to address this and among other things will investigate how the relationship between trust and acceptance is different for issues that vary in the strength of negative emotional reactions they elicit. A number of emerging issues can be identified that are likely to vary in the extent to which they elicit emotional responses from consumers including:

1. Waterborne disease outbreak, such as occurred in the Bergen Giardia case, particularly where negligence or failure to act on the part of the water company becomes evident. Even with a duty-of-care one might expect an emotional response to the presence of pathogens that survive conventional treatment trains.
2. Effects of climate change on water resources and water treatment, as evidenced by rising levels of Natural Organic Matter in drinking water. As consumer awareness of issues of climate change are raised, a response might be anticipated if water supply is affected or interrupted without appropriate preparations being made.
3. High leakage rates and low replacement rate of the pipe system is becoming a challenge for many European cities with well invested systems. Considerable improvements will be required for the pipe infrastructure, which may lead to increased water rates. We need to understand how trust and confidence might affect willingness to pay for the necessary investments.
4. The trend for a switch from public to private organizations for water supply may affect consumer trust in the new supplier (due to concern that the primary motive is profit), although not necessarily confidence that a quality potable water is delivered. In the England and Wales, where the water utilities are completely privatised recent research has shown that the motives and values of private companies are indeed questioned by consumers particularly when the media focus on high profit taking and profits leaving the country while performance is perceived to be lacking (CCWater, 2006).

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References

Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In Kuhl, J., and Beckmann, J., (eds.) Action control: from cognition to behaviour. Springer, Berlin, 11-39.

Bord, R. J. & O'Connor, R. E. (1992). Determinants of risk perceptions of a hazardous waster site. Risk Analysis, 12(3), 411-416.

Consumer Council for Water (2006b). Using Water Wisely: A Deliberative Consultation. http://www.ccwater.org.uk/upload/pdf/Using_Water_Wisely_Final_Written_Report.pdf .pdf

Earle, T.C. & Siegrist, M. (2006). Morality information, performance information, and the distinction between trust and confidence. Journal of Applied Social Psychology, 36, 383-416.

Eiser, J.R., Miles, S. & Frewer, L.J. (2002). Trust, perceived risk and attitudes towards food technologies. Journal of Applied Social Psychology, 32, 2423-2433.

Fife-Schaw, C.R., Kelay, T., Vloerbergh, I., Ramaker, T., Chenoweth, J. Morrison, G. & Lundéhn, C. (2007). Consumer Trust and Confidence: An Overview. TECHNEAU Report, http://www.techneau.org .

Finucane, M.L., Alhhakami, A.S., Slovic, P. &Johnson, S.M. (2000). The affect heuristic in the judgement of risks and benefits. Journal of Behavioural Decision Making, 13, 1-17.

Freudenburg, W. R. (1993), 'Risk and Recreancy: Weber, the Division of Labor, and the Rationality of Risk Perceptions', Social Forces 71(4): 909-32.

Haddad, B. (2004) WateReuse Foundation summary of research needs assessment workshop: Human reactions to water reuse. Appendix I in Southern California Water Recycling Projects Initiative (2004). Successful Public Information and Education Strategies: Technical Memorandum. http://www.usbr.gov/lc/socal/reports/TM_PublicInfoStrategies.pdf

Marks, J.S. (2006). Taking the public seriously: the case of potable and non potable reuse. Desalination, 187, 137-147.

Po, M., Nancarrow, B., Leviston, Z., Porter, N., Syme, G., & Kaercher, J. (2005). Predicting Community Behaviour in Relation to Wastewater Reuse: What Drives Decisions to Accept or Reject? Melbourne: CSIRO.

Poortinga, W. & Pidgeon, N. F. (2004) Trust, the asymmetry principle, and the role of prior beliefs. Risk Analysis, 24(6), 1475-1486.

Poortinga, W. & Pidgeon, N.F. (2005). Trust in Risk Regulation: Cause or Consequence of the Acceptability of GM Food? Risk Analysis, 25, 199-209.

Roseth, N. (2000) Community Views on Recycled Water, Proceedings Enviro 2000 Towards Sustainability, 9-13 April, Sydney.

Siegrist, M., Earle, T.C. & Gutcher, H. (2003). Test of a trust and confidence model in the applied context of electromagnetic field (EMF) risks. Risk Analysis, 23, 705-716.