The Hijacking of Trust: Assessing Plausibility and Risk in Cyberspace

Overview
This funded PhD studentship will investigate the cognitive processes that influence on-line decision-making. In particular, it will assess how trust can be hijacked on-line (e.g. through phishing exercises) and will identify whether there are behavioural indices that can predict susceptibility to risky on-line behaviour. In addition, the project will consider the value and effectiveness of both software-side and education-based solutions to enhance on-line security.

Thesis development
We expect the successful candidate to take ownership of and offer direction for the research questions through the lifetime of the PhD. Nonetheless we expect the thesis will involve a series of cumulative, quantitative empirical investigations, each of which will explore specific research issues. We envisage that each experiment will involve a combination of (a) experimental manipulations and (b) the investigation of quasi-experimental variables such as working memory capacity to establish the statistical associations between manifest and latent variables as a function of naturally occurring individual differences.

The project will have multiple hypotheses. Nonetheless, an overarching hypothesis is that on-line decision making is not a stable (i.e. fixed) attribute possessed by everyone in equal measure at all times. Rather, decisions are made in the moment, and thus the factors that contribute to both moment-by-moment fluctuations in response, and factors that contribute to differences between people, should be established.

This leads to several more specific hypotheses, which might include:

a) Impulsive responses are more likely to occur at times of mental and physical distraction
b) Impulsive responses are more likely when we frequently engage in brief, rapid exchanges of messages (ie when there is less need to scrutinize many messages)
c) Impulsive responses are more likely when using ubiquitous devices that we are highly familiar with (and thus value and trust)
d) Some individuals are more prone to making impulsive responses than others, and that this is linked to certain cognitive profiles.

Working environment
This interdisciplinary PhD will be centred in the Psychology Department under the supervision of Dr John Towse (http://www.psych.lancs.ac.uk/people/john-towse), alongside Dr Nick Race from the Department of Computing (http://www.comp.lancs.ac.uk/department/staff.php?name=race) and Dr Kim Kaivanto from the Department of Economics.
You will be working with this team of researchers and you will be expected to liaise with them and keep them informed of project developments. You will be able to benefit from their complementary set of skills and expertise to develop an exciting and unique research project in this timely and topical area.

The DTC centre incorporates an area of expertise and excellence in Security and the Department of Psychology at Lancaster has an exceptional reputation in this regard. The Department has an outstanding track record of successful PhD submission within 4 years of registration – over 90% of students of recent students successfully submit on time.