1. Introduction

In marketing, the customer is often called “the familiar unknown.” We deal with users every day. We think we understand them. We know that understanding them is the key to success. Yet we really do not understand them. The same is true of IT and users. This minitrack brings together researchers who are trying to understand users so that we can serve them effectively.

2. What Kind of Interventions Can Help Users from Falling for Phishing Attempts: A Research Proposal for Examining Stage-Appropriate Interventions

Mary Burns, August State University, Alexandra Durcikova, The University of Oklahoma, and Jeffrey L. Jenkins, Arizona State University

It is difficult to develop technical means to catch phishing attempts, and when human users fall for phishing e-mails, they usually have the ability to bypass all technical safeguards.

Nearly all studies have ignored the fact that people tend to go through stages when confronted with risks that require taking action to ensure safety. This planned research study will apply stage-based response theory of the type heavily used in medicine.

The stage approach to be used in the research assumes that people tend to go through stages when facing a new risk. The first is denial, in which the individual denies that any action needs to be taken. The second is interest, in which the individual becomes aware of risks but is not sufficiently convinced to take action. In the third stage, the individual decides to take action and does take action, albeit with occasional backsliding. Similar stage theories are seen in consumer purchasing and other fields. In the study, it will be determined whether particular stage-appropriate training interventions will be effective in moving individuals up the stage ladder.

3. The Cognitive Science of Spreadsheet Errors: Why Thinking is Bad

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Despite overwhelming evidence that spreadsheet errors are widespread and serious, most people believe that “It can’t be that bad.” They are in the denial stage.

The error rates found in spreadsheet research are very small—only 1% to 5% of all cells. Unfortunately, in spreadsheets of any size, the compounding of error rates in calculation chains means that errors are almost certain. Error rates of this size are unacceptable.

Validating spreadsheet research, the far larger literature on human error rates shows that cell error rates of 1% to 5% are universally seen for actions of comparable complexity. In fact, if the spreadsheet error literature had come to any lower error range, it would almost certainly be incorrect.

Finally, the paper discusses the cognitive science of why we make mistakes when we think. We believe that if we are very careful, do cross-checking, and look over our work carefully, we can avoid without significant errors. In fact, research shows that our cognitive processes are so somewhat chaotic, and our cognitive processes hide this chaos from our attention, giving us comforting illusions that we have extremely coherent and controllable cognitive processes. In addition, to make up for its limitations, human cognition does intelligent gambling so that is more likely to be correct in frequent situations but less likely to be correct in rare situations. The net result is that the produce success nearly all of the time at the expense of a tiny error rate. Unfortunately, this tiny error rate is too large for large spreadsheets with many calculation chains.