FINTRAC Trains South American FIUs

In early December 2009, Randy Reynoso from the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) helped deliver analytic training for the UNODC in Bogota, Colombia. The 5-day course was attended by 13 participants from the financial intelligence units (FIUs) of Colombia, Peru and Ecuador.

"The UNODC training offered the participants an excellent opportunity, not only to enhance their analytical skills and better understand financial intelligence, but it also provided an excellent venue for networking and sharing ideas with other analysts" commented Reynoso.

The UNODC has a mandate to assist countries to develop more robust measures against money laundering and terrorist financing. This marks the third occasion that Canada has assisted the UNODC's Global Programme against Money-Laundering, Proceeds of Crime and the Financing of Terrorism.

The FINTRAC website offers a number of useful publications as well as a short course on Terrorist Financing and How FINTRAC Builds a Case.

GFF Intelligence Forum

The Global Futures Forum (GFF) was created by the CIA as a means of reaching out and engaging the academic community.

Within the GFF website (in a sidebar called "Substantive Topics") is a "Community of Interest" on the "Practice and Organization of Intelligence" (COI-POI). Moderated by Tony Campbell, former Executive Director of the International Assessments Staff at PCO, its mandate is broadly defined and includes conceptual and practical contributions addressing the leadership and management of intelligence, best practices ("tradecraft"), organisational behaviour and the art and science of change. To access the GFF website and participate in the forum, contact Janelle Boucher, BOUCHERJA@smtp.gc.ca.

Confirmation and positive-test biases in hypothesis testing

by Dr. David Mandel

Hypothesis generation and hypothesis testing are central to intelligence analysis (Heuer,1999). These cognitive processes often guide the collection and use of evidence and influence the conclusions analysts ultimately reach. Thus, a clear understanding of how people tend to generate and test hypotheses is arguably a basic prerequisite for analytic integrity.

Early behavioural science literature on hypothesis generation and testing suggested that people's hypothesis-testing strategies are biased such that people seek confirmation for their preferred hypotheses.

Based on his classic "rule discovery" research, Wason (1960, 1968) proposed that people seek out evidence in a manner that places greater weight on confirming one's hypothesis than on disconfirming it.

In the rule discovery paradigm, participants are told that their task is to correctly identify the rule that the experimenter is using to generate triplets of numbers. The experimenter begins by providing an example of a triplet that fits the rule and then the participant must formulate a hypothesis to test. To do so, the participant provides a triplet and the experimenter provides accurate feedback on whether the triplet is consistent or inconsistent with the rule.

What Wason found was that when the experimenter's rule was quite general, such as "increasing numbers," and the initial example, such as 2-4-6, was suggestive of a more specific rule, such as "increasing even numbers," the initial hypotheses people generated tended to favor narrower rules.

As well, Wason found that most people generated triplets to test their hypothesis that were instances of their current hypothesis. For instance, if they thought the rule was "increasing even numbers", they would generate examples like 4-6-8 or 2-10-20, but not non-conforming instances like 5-7-9.

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These findings led Wason to conclude that people sought evidence that confirmed their stated hypotheses.

However, in an insightful reinterpretation of the "confirmation bias" phenomenon, Klayman and Ha (1987) proposed that people do not necessarily seek out or give greater weight to confirmatory information. Rather, they prefer to test hypotheses by examining cases that conform to their stated hypothesis, as Wason had found, and they seldom select or seek out nonconforming instances to test their hypotheses.

Although the former, which Klayman and Ha call positive hypothesis tests, are hypothesis *conforming*, they are not necessarily hypothesis *confirming*.

Similarly, although the latter, which Klayman and Ha call negative hypothesis tests, are hypothesis *nonconforming*, they are not necessarily hypothesis *disconfirming*.

That is, a positive (i.e., conforming-cases) test can provide disconfirmatory evidence, just as a negative (i.e., nonconforming-cases) test can provide confirmatory evidence.

For example, an individual who believes the rule to be "increasing even numbers" and selects 4-8-12 might have his or her hypothesis disconfirmed if the rule was in fact "numbers increasing by two". Likewise an individual wishing to test the same hypothesis via a negative test with the triple 5-9-15 would receive confirmatory support because this example would indeed not fit the rule (even though the hypothesized rule in this example is false).

Introductory discussions of cognitive factors in intelligence analysis would likely benefit by making clear the distinction between confirmation bias (a tendency to seek or give greater weight to hypothesis confirming evidence) and positive-test bias (a tendency to seek or give greater weight to hypothesis conforming evidence).

There is evidence for both types of biases (e.g., on the former, see Tetlock & Henik, 2005; on the latter, see Mandel & Vartanian 2009), but their implications for analytic rigor are not equally dire. Indeed, as some theorists have noted (e.g., McKenzie & Mikkelsen, 2000), in situations where one is testing hypotheses about low-probability events (such as major terrorist attacks), positive testing ought to provide greater sensitivity in discriminating true hypotheses from false ones.

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