

Denial of a conjectured experimental model for search fund study

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Abstract: We evaluate the diagram of the search cycle for percentage of funds in each phase and returns for terminal funds. It is *not* tautologous, hence denying the conjectured model of the experiment. This forms a *non* tautologous fragment of the universal logic $\forall\mathcal{L}4$.

We assume the method and apparatus of Meth8/ $\forall\mathcal{L}4$ with Tautology as the designated proof value, **F** as contradiction, **N** as truthity (non-contingency), and **C** as falsity (contingency). The 16-valued truth table is row-major and horizontal, or repeating fragments of 128-tables, sometimes with table counts, for more variables. (See ersatz-systems.com.)

LET \sim Not, \neg ; + Or, \vee , \cup , \sqcup ; - Not Or; & And, \wedge , \cap , \sqcap , \cdot , \otimes ; \ Not And;
 $>$ Imply, greater than, \rightarrow , \Rightarrow , \mapsto , \succ , \supset , \Rightarrow ; $<$ Not Imply, less than, \in , $<$, \subset , \prec , \neq , \ll , \lesssim ;
 $=$ Equivalent, \equiv , $:=$, \Leftrightarrow , \leftrightarrow , \triangleq , \approx , \cong ; @ Not Equivalent, \neq , \oplus ;
 $\%$ possibility, for one or some, \exists , \diamond , M ; # necessity, for every or all, \forall , \square , L ;
 $(z=z)$ **T** as tautology, \top , ordinal 3; $(z@z)$ **F** as contradiction, \emptyset , Null, \perp , zero;
 $(\%z\>\#z)$ **N** as non-contingency, Δ , ordinal 1; $(\%z\<\#z)$ **C** as contingency, ∇ , ordinal 2;
 $\sim(y < x)$ ($x \leq y$), ($x \subseteq y$), ($x \sqsubseteq y$); $(A=B)$ ($A\sim B$).
 Note for clarity, we usually distribute quantifiers onto each designated variable.

From: Yoder, A.; Kelly, P. (2018). Search fund study. Stanford Business School. Case E-662.

RETURNS

Figure F shows the percentage of funds in each phase of the search cycle, as well as return characteristics for terminal funds.

Remark Fig. F: We write the icons of Fig. F in words as:

If [(acquisition implies (gain plus loss)) and
 (gain implies (roi_1 plus roi_2 plus roi_3 plus roi_4)) and
 (loss implies (total loss plus partial loss))]
 then (concluded search fund implies (acquisition plus no acquisition)). (F.1)

LET: p Concluded search fund;
 q Acquisition;
 r No acquisition;
 s Gain;
 t Loss;
 u, v, w, x:
 Return on investment as 1-2x, 2-5x, 5-10x, 10x+;
 y Partial loss;
 z Total loss.

$((q\>(s+t))\&(s\>((u+v)+(w+x)))\&(t\>(y+z))) > (p\>(q+r))$;
 \mathbf{TFTT} \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} (1)
 \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} (1)
 \mathbf{TFTT} \mathbf{TTTT} \mathbf{TFTT} \mathbf{TTTT} (1) }x15
 \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} (1) }
 \mathbf{TFTT} \mathbf{TTTT} \mathbf{TTTT} \mathbf{TTTT} (2) }x 3
 \mathbf{TFTT} \mathbf{TTTT} \mathbf{TFTT} \mathbf{TTTT} (30) } (F.2)

Remark F.2: We attempt to resuscitate Eq. F.2 by injecting an antecedent component to define No acquisition as zero, that is, $(r > (z @ z))$, but the truth table result is the same as F.2.

Eq. F.2 as rendered is *not* tautologous. Hence the conjectured model of the experiment is denied.