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Let the bits speak for themselves.

Problem

Information Operations (IO)

Table 2-2. Examples of operational variables crosswalked with civil considerations

| | Political | Military | Economic | Social | Information | Infrastructure |
|----------------------|---|--|--|--|--|--|
| Areas | <ul style="list-style-type: none"> • Enclave, province, district • National boundaries • Shadow government influence area | <ul style="list-style-type: none"> • Areas of influence and interest • Area of operations • Safe haven • Local nation base or training area | <ul style="list-style-type: none"> • Commercial • Fishery • Industrial • Markets • Mining • Smuggling routes • E-commerce | <ul style="list-style-type: none"> • Refugee camp • Ethnic, social, tribal enclave • School district • Online group | <ul style="list-style-type: none"> • Broadcast coverage area • Social media reach or penetration • Word of mouth • Graffiti | <ul style="list-style-type: none"> • Road system • City limit • Power grid • Irrigation network • Suburb, exurb, urban core |
| Structures | <ul style="list-style-type: none"> • Court house • Government center • Capitol building • Meeting hall | <ul style="list-style-type: none"> • Base and base buildings • Training facility • Known leader house | <ul style="list-style-type: none"> • Banking • Fuel • Factory • Warehousing • Online store • "Wall Street" versus "Main Street" | <ul style="list-style-type: none"> • Club • Jail • Library • Religious building • Restaurant • Social media platform | <ul style="list-style-type: none"> • Cell tower • Broadcast facility • Physical internet structure • Postal service • Print shop | <ul style="list-style-type: none"> • Emergency shelter • Public building • Airfield, bridge, railroad • Construction sites • Electric station |
| Capabilities | <ul style="list-style-type: none"> • Civil authority, practices and rights • Executive, legislative, and judicial functions • Dispute resolution | <ul style="list-style-type: none"> • Doctrine • Organization • Training • Materiel • Leadership • Personnel • Facilities • Civil-military relationship | <ul style="list-style-type: none"> • Currency • Food security • Market or black market • Raw material • Tariff • BITCOIN • Imports or exports | <ul style="list-style-type: none"> • Social network • Nonprofit support to disasters • Social services | <ul style="list-style-type: none"> • News operation • Newspaper • Social media platform • Literacy rate • Intelligence service • Internet access | <ul style="list-style-type: none"> • Law enforcement • Fire fighting • Maintenance • Transportation • HVAC (heating, ventilation, and air conditioning) |
| Organizations | <ul style="list-style-type: none"> • Major political party • Nongovernmental organization • Host government • Court system • Insurgent group affiliation | <ul style="list-style-type: none"> • Host-nation forces • Insurgent group or network • Terrorist • Military lobbying group | <ul style="list-style-type: none"> • Bank • Business organization • Guild • Labor union • Landowner • Cooperative | <ul style="list-style-type: none"> • Clan • Online or in-person affinity group • Patriotic or service organization • Familial | <ul style="list-style-type: none"> • Media group • Public relations firm • Social media information group • News organization | <ul style="list-style-type: none"> • Construction company • Trade union • Cooperative |

| Matrix for AND & Areas | Political G | Military M | Economic E | Social L | Information I | Infrastruct. F |
|------------------------|-------------|------------|------------|----------|---------------|----------------|
| A | A & G | A & M | A & E | A & L | A & I | A & F |
| B | B & G | B & M | B & E | B & L | B & I | B & F |
| C | C & G | C & M | C & E | C & L | C & I | C & F |
| Z | Z & G | Z & M | Z & E | Z & L | Z & I | Z & F |

Solution

Operations Information (OI)

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| Matrix for IMPLY → | Political G | Military M | Economic E | Social L | Information I | Infrastruct. F |
|--------------------------------|-----------------------|----------------------|----------------------|--------------------|-------------------------|--------------------------|
| Areas A | A → G | A → M | A → E | A → L | A → I | A → F |
| Structures, Bldgs. B | B → G | B → M | B → E | B → L | B → I | B → F |
| Capabilities C | C → G | C → M | C → E | C → L | C → I | C → F |
| Organizat. Z | Z → G | Z → M | Z → E | Z → L | Z → I | Z → F |

Solution

Logic 101

Logic and arithmetic interchange:

And $\&$ means Multiply $*$, Not And \backslash means Divide $/$;

Or $+$ means Add $+$, Not Or $-$ means Subtract $-$.

Logic also has Implication \rightarrow which is tricky:

Nothing false can come out of truth.

False A implies False B;

False A can also imply a True B;

True A implies True B; but

True A **cannot** imply a False B.

Solution

Logic *ready* to apply to OI

The 600 papers at vivixra.org/author/colin_james_iii evaluate 777 artifacts in 4,134 assertions at an 86.2% *refutation* rate.

The technology readiness level (TRL) value is 9+ because Meth8/VL4 is a strategic business asset and industrial grade product available for delivery.

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|-------------------------|----------------|---------------|---------------|-------------|------------------|-------------------|
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| Structures, Bldgs. B | B → G | B → M | B → E | B → L | B → I | B → F |
| Capabilities C | C → G | C → M | C → E | C → L | C → I | C → F |
| Organization Z | Z → G | Z → M | Z → E | Z → L | Z → I | Z → F |

Solution

Apply logic to OI

Matrix category abbreviation assignments to 11 logical variables

| Category | Abbreviation | Variable |
|----------------|--------------|----------|
| Areas | A | p |
| Buildings | B | q |
| Capabilities | C | r |
| Economic | E | s |
| Infrastructure | F | t |
| Undefined | | u |
| Political | G | v |
| Information | I | w |
| Social | L | x |
| Military | M | y |
| Organization | Z | z |

Solution

Worked example 1 of 2

Question: If national boundaries (areas, political) imply functions of government (capabilities, political), then do banks (organizations, economic) imply BITCOIN (capabilities, economic)?

Motivation: National governments are said to affect the BITCOIN.

Logical mapping:

$((p \& v) \rightarrow (r \& v)) \rightarrow ((z \& s) \rightarrow (r \& s))$; $\begin{matrix} \text{TTTT} & \text{TTTT} & \mathbf{FFFF} & \text{TTTT} & (4) \end{matrix} \times 16$
 $\begin{matrix} \text{TTTT} & \text{TTTT} & \mathbf{FTFT} & \text{TTTT} & (4) \end{matrix}$

Meaning of results: If the sentence is proved correct, then the truth table value output should be all T which is not the case with some \mathbf{F} . Hence the answer to the question is No.

Solution

Worked example 2 of 2

Question: Do terrorist groups (organizations, military) and smuggling routes (areas, economic) *or* host governments (organizations, political) and black markets (capabilities, economic) imply banks (organizations, economic)?

Motivation: Banks are said to be present in criminal activity.

Logical mapping:

$((z \& y) \& (p \& s)) + ((z \& v) \& (r \& s)) \rightarrow (z \& s) ;$

TTTT TTTT TTTT TTTT (128)

Meaning of results: The designated proof value \top populates the entire truth table to mean the answer is Yes.

Comment: In fact for both groups (*and*, not *or*) the answer is the same.



Why now

The immediate market is persistent with the new Space Command addition to DoD.

The extended market emerged recently when Information Operations (IO) was tacitly redefined by expansion into our suggested name as Operations Information (OI).

The acronym for Operations Intelligence falls therein.

The target market is Government computer labs of an *uncountable* number.

The universal market eventually interfaces on the lead of DoD and the Government into banks and corporations.

Competition

At this time, there is no competition because Meth8/VŁ4 is the only bivalent, four-valued model checker available.

The closest products are inexact, probabilistic, vector space inventions at home-grown academic websites as: programming library Isabelle/HOL; computer language Prolog; theorem Prover9; and proof assistant Coq. Metamath cannot qualify despite claims. These spawn countless papers to feed the *not* ready for prime time academic cartel.

Meth8/VŁ4 maps then confirms or refutes all other logic systems as fragments of the universal logic VŁ4.

Product or technology

Meth8/VL4 is an industrial grade product with full life-cycle based on the DoD-STD-2167/2168A. Test cases and documentation are embedded in 4,000 lines of the educator's language ANSI TrueBASIC, where design ensures easy source portability/scalability to ANSI Ada95.

Meth8/VL4 is its *own* disruptive technology because it:

- Modifies the Square of Opposition with edge equations;

- Corrects two of the 24-syllogisms of discourse, Modus Cesare and Modus Camestros; and

- Proves the quantifiers are equivalent to modal operators.

Business model

Meth8/VL4 is priced by user seat depending on the number of variables processed: (3) \$47; (4) \$97; (11) \$147; (20) \$497; (22) \$797. These lookup tables fit on an 8GB CD. A free student demo of 2-variables has *unlimited* sequents.

ESMC seeks to market Meth8/VL4 to academia and business from East to West based on relative sophistication of software development in the world at this time. The plan is to market to Japan, Europe, and ultimately to USA.

The unique installation and validation technology avoids asymmetric encryption, making Meth8/VL4 fully ITAR compliant and hence exportable.

Team

Colin James III is Director/Principal Researcher of ESMC. He was one of the first 250 in 1964 in New Hampshire to learn Dartmouth BASIC while in prep school.

Since then he is a subject matter expert on: software life-cycle development, inventing the Software Development Method (SDM) to predict human resources within 100 person hours based on the time for requirements collection; multiple- or n-entry accounting arithmetic (RA) in logic tables on real-time SQL; and mathematical logic with the resuscitation of Jan Łukaciewicz' four-valued, modal logic (now the universal logic $V\mathbb{L}4$).

Financials

The mission statement is three words: “Sell the company”.

ESMC is unencumbered and owned by Colin James III.

I seek to redirect my work week from 65- to 40-hours, and hence sell ESME, with my intellectual property assets*, as a joint-partnership of 51% to the partner for \$57K, or outright to academia, business, or the Government for \$104K, to effect a sooner sale. A finder’s commission of about 5% is available for the partnership sale.

*This includes five current / inactive patents, SDM, RA with logic table technology (LTT), and Meth8/VL4.