The mathematics of Ripose

Overview

This fact sheet demonstrates that the Ripose technique can be reduced to a number of mathematical terms.

"Mathematics can be defined as the logically rigorous study of topics such as quantity, structure, space, and change. Another view, held by many mathematicians, is that mathematics is the body of knowledge justified by deductive reasoning, starting from axioms and definitions." – Wikipedia

Ripose – A precise technique which rapidly identifies patterns of strategic elements

Axioms

- An established or widely accepted principle
- A self-evident truth

Highest common factor

The highest common factor of all life forms is *to stimulate an effect*:

- Cause and effect – Aristotle (384-322 BCE)
- Every action has an equal and opposite reaction – Newton's third law of motion. Isaac Newton (1642-1727)

Lowest common denominator

The lowest common denominator is *to ensure that all effects are easily acceptable to all life forms*

Definitions

A definition is a statement of the meaning of a word or the nature of a thing.

Please refer to the symbol table for the expansion of the term used in the mathematical formula.

Information

- Items of knowledge
- A mathematical quantity expressing the probability of occurrence of a particular sequence of symbols etc – In information theory

Ripose expresses this as follows

$$\text{Inf} = \sum_{n=1}^{\infty} \{O+K+Po+F+Pr\}$$

Information is equal to the infinite sum of all objectives and knowledge classes and policies and facts and processes

The mathematics of Ripose

Objectives
- External to the mind; actually existing; real.
- Dealing with outward things or exhibiting facts uncoloured by feelings or opinions; not subjective

Ripose expresses this as follows

$$O = \sum_{n=1}^{16} G + \sum_{n=1}^{\infty} I$$

Objectives is equal to 16 goals plus an infinite number of indicators

Goals
- The object of a person's ambition or effort
- A destination
- An aim

Ripose expresses this as follows

G=P+Mi+F+Cp+Nm+CFF or

G=(P)(B1{V1+V2+V3})(B2{V4+V5+V6})(B3{V7+V8})(B4{V9+V10+V11})+(Cp)(H1{Dv1+ Dv2+Dv3})(H2{Dv4+Dv5+Dv6})(H3{Dv7+Dv8})(H4{Dv9+Dv10+Dv11})

Goals are equal to 1 purpose plus 4 benefits (missions) plus 11 values (critical success factors) + 1 counter purpose + 4 hardships (negative missions) + 11 de-values (critical failure factors)

Indicators
- Thing that shows performance, change, etc.
- A device indicating the condition of a machine etc

Ripose expresses this as follows

I={PI+M}

Indicators are equal to the set of all performance indicators plus metrics.

In theory, the number of indicators (or issues) a business may have is infinite.

In practice, the number of indicators depends upon the abilities of the personnel participating in the venture (business/family). Hence the number of indicators could be as few as 5 or 9 (7 plus or minus 2) multiplied by the number of people who want to be involved in the success of the venture

Performance indicators

- An act or process of carrying out the means to display a device indicating a condition.

Ripose expresses this as follows

$$PI = KPI + \sum_{n=1}^{\infty} SI$$

Each performance indicator is equal to its key performance indicator plus an infinite number of subordinate indicators

Knowledge

- Awareness or familiarity gained by experience
- A person's range of information
- A theoretical or practical understanding of a subject, language, etc
- The sum of what is known
- Philosophy – True, justified belief; certain understanding, as opposed to opinion

Ripose expresses this as follows

$$K = \sum_{n=1}^{6} PFE\{\sum_{n=1}^{\infty} SE\} + \sum_{n=1}^{8} IFE\{\sum_{n=1}^{\infty} SE\} + \sum_{n=1}^{5} IFE\{\sum_{n=1}^{\infty} SE\} + \sum_{n=1}^{3} CFE\{\sum_{n=1}^{\infty} SE\} + \sum_{n=1}^{\infty} R$$

Knowledge is equal to the sum of the six principle fundamental entity classes PLUS the set of an infinite number of its secondary entities plus the sum of 8 intersecting fundamental entity classes PLUS the set of an infinite number of its secondary entities PLUS the sum of 5 intersecting fundamental entity classes PLUS the set of an infinite number of its secondary entities PLUS the sum of 3 case fundamental entity classes PLUS the set of an infinite number of its secondary entities plus an infinite number of relationships between all the entity classes

The total number of knowledge classes and relationships are bounded by the collective knowledge of people actively participating in the venture working together as a team. In theory, it is infinite, in practice the number could range from 23 to 500.

Policies

- A course or principle of action adopted or proposed by a government, party, business, or individual etc.
- Prudent conduct; sagacity

Ripose expresses this as follows

$$Po = \sum_{n=1}^{\infty} (S\{CS+AS\}+T\{CT+AT\})$$

Policies represent an infinite sum of strategies (core and ancillary) pus tactics (core and ancillary). Theoretically the total number of policies can be equated to the number of objectives multiplied by the square of the number of knowledge objects or $Po=OK^2$. The number of unique strategies or $U(s) = K^2 - \Sigma K$ (the square of the number of knowledge classes minus the number of knowledge classes).

In practice the Ripose technique has identified 5 (five) strategic policies which appear to satisfy most requirements. This identification substantially reduces the time needed to identify and understand an organisation's strategies.

Tactics is another issue. The Ripose technique enables management to use the knowledge base and strategies to help identify and define the tactics specific to the businesses needs.

Facts

- A thing that is known to have occurred, to exist, or to be true
- A datum of experience
- An item of verified information
- A piece of evidence
- Truth or reality
- A thing assumed as the basis for argument or inference

Ripose expresses this as follows:

$$F = \sum_{n=1}^{\infty} K\{ \sum_{n=1}^{\infty} A\}$$

In theory the number of facts a venture may require are infinite, in practice, this is limited by the number of knowledge classes identified by the personnel working on the venture.

Symbol table

Symbol	Object
∞	Infinity
{}	Set of
Σ	Sum of
A	Attribute
AS	Ancillary strategy
AT	Ancillary tactic
B	Benefit
CFE	Case fundamental entity
CFF	Critical failure factor
Cp	Counter purpose
CS	Core strategy
CSF	Critical success factor
CT	Core tactic
Dv	De-value
F	Fact
G	Goal
H	Hardship
I	Issue; Indicator
IFE	Intersecting fundamental entity
Inf	Information
M	Metrics
Mi	Mission
n	Number of occurrences
Nm	Negative mission
O	Objective
P	Purpose
PFE	Principal fundamental entity
PI	Performance indicator
Po	Policy
Pr	Process
R	Relationship
S	Strategy
SE	Secondary entity; Subordinate entity
SI	Subordinate issue
T	Tactic
V	Value

References

Term	Web site
Axiom	http://en.wikipedia.org/wiki/Axiom
Cause and effect	http://en.wikipedia.org/wiki/Causality
Highest common factor	http://en.wikipedia.org/wiki/Gcd
Lowest common denominator	http://en.wikipedia.org/wiki/Lowest_common_denominator
Mathematics	http://en.wikipedia.org/wiki/Mathematics
Newton's law of motion	http://csep10.phys.utk.edu/astr161/lect/history/newton3laws.html